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## ABSTRACT

This teacher guide is designed to help Alberta, Canada, youth discover, explore, and more fully understand careers and career paths in the four sectors of the construction industry--commercial, industrial, residential, and road building. An introduction discusses potential uses of the materials and explains why Alberta students need to know more about careers in the construction industry. Section 2 describes materials on and use of the CD-ROM. Section 3 suggests courses for which this teacher guide and the CD-ROM are suitable resources and gives two examples of how they might be used as teaching and learning resources. Section 4 shows career paths in construction and explores apprenticeship pathways. Section 5 answers frequently asked questions about working in construction. Section 6 contains materials designed to encourage junior and senior high school students to learn more about the construction industry, where they might fit into it, and how to plan for a career in this area. These materials include 5 student handouts and 10 student activities. Answer keys are provided as necessary. (YLB)

# TRADE UP!

## CAREERS IN CONSTRUCTION

What's in the Construction Industry for me?

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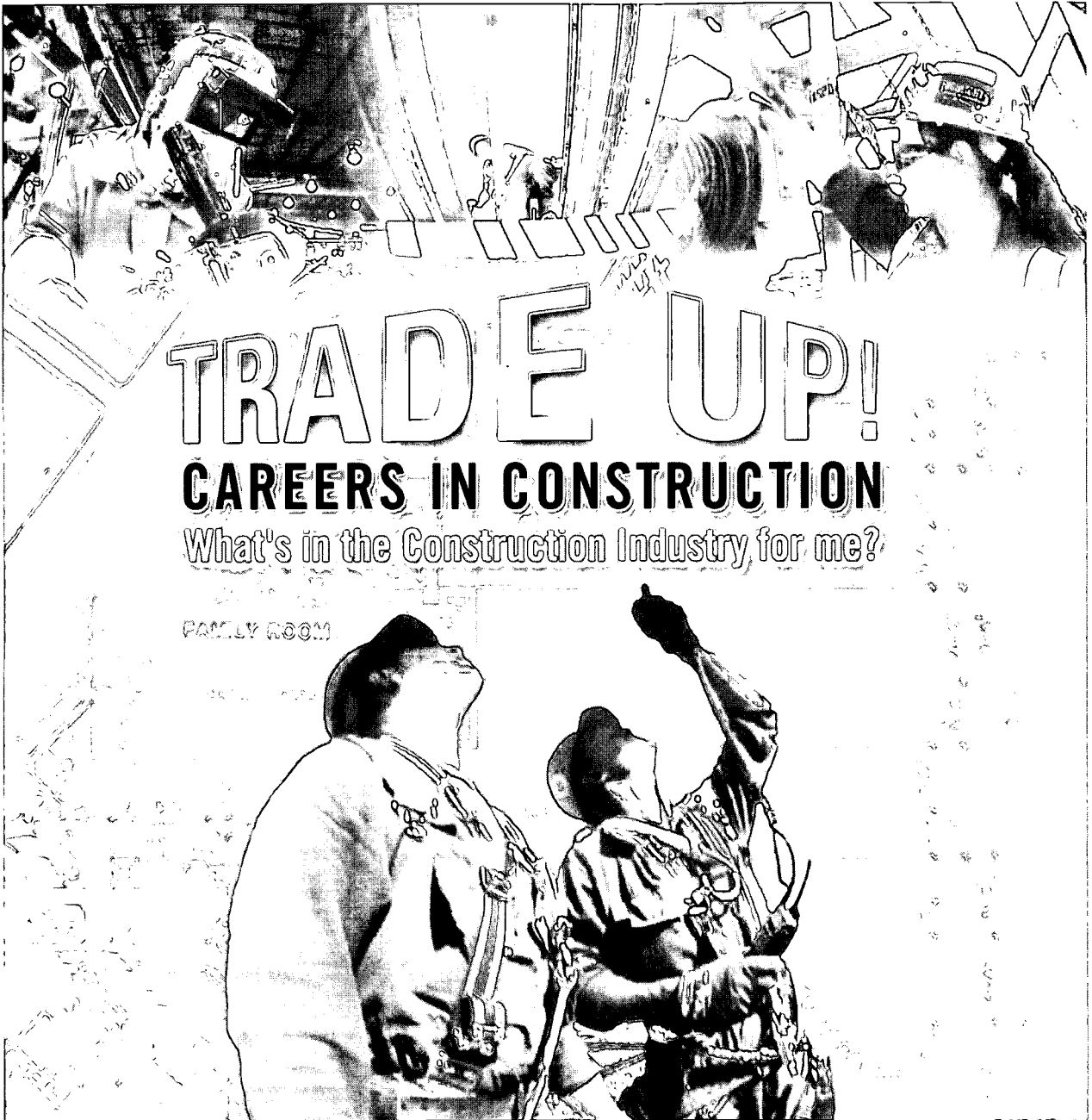
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2

Please see your

school Counsellor or Career Centre



# TEACHER GUIDE

Construction Industry  
of Alberta

**Alberta**  
LEARNING

# **TRADE UP!**

## **Careers in Construction**

### **Teacher Guide**

**2000**

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The primary intended audience for this document is:

<i>Administrators</i>	
<i>Counsellors</i>	
<i>General Audience</i>	
<i>Parents</i>	
<i>Students</i>	
<i>Teachers</i>	✓

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## PREFACE

The Alberta construction industry is particularly vibrant as this teacher guide is being introduced. This vibrancy is based on the courage of corporations and individuals to invest their hard earned dollars in our province through the purchase of construction services.

The signing of a contract to build a new home, a new road, a shopping centre or a giant industrial complex begins the opportunity for our industry workers to design and build structures through which those involved gain enormous satisfaction.

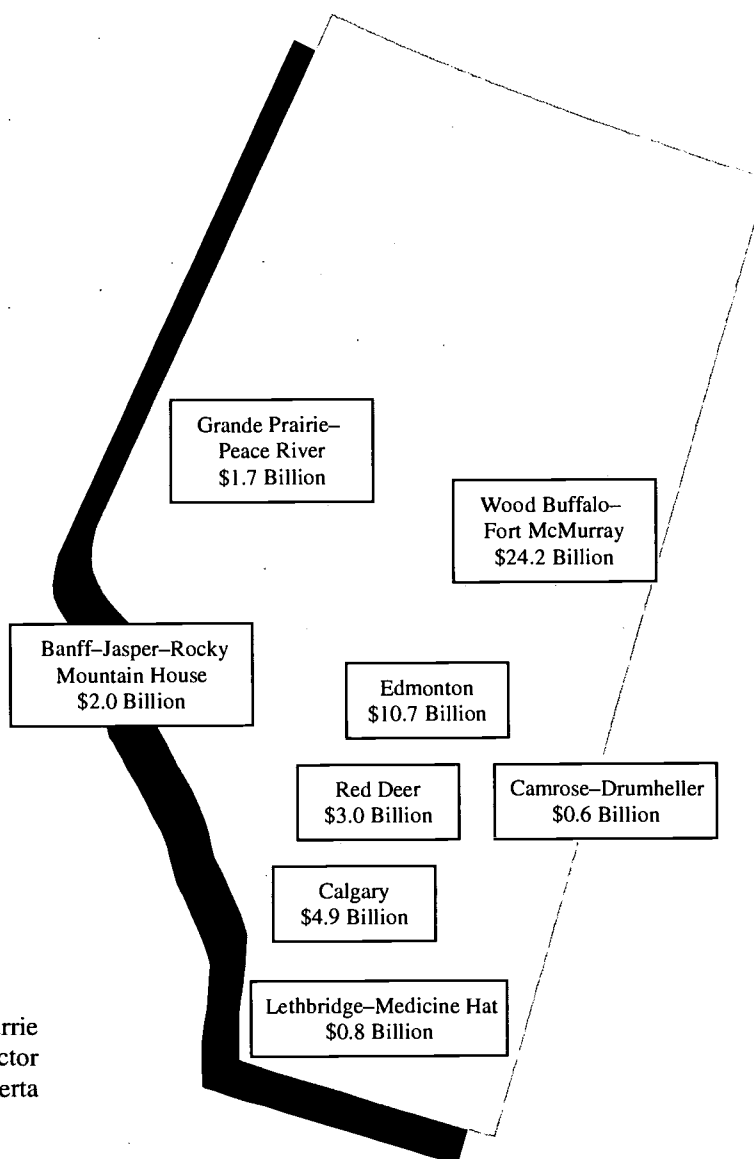
During 1999, there were 132 000 individuals employed in our industry. Current and planned purchase of construction services over the next four years will be in the 40 billion dollar range and require 20 000 additional employees to complete the work. The attached map shows the distribution of the investment dollars.

Albertans are industrious citizens who have a proven track record (just look around your community) in building solid, technologically-advanced structures for our collective benefit.

With your help as leaders and mentors to future generations, this guide and the accompanying CDROM will excite your students to explore the role of the construction industry in our society.

Don Currie  
Managing Director  
Construction Owners Association of Alberta

**Regional Project Expenditures**



**Minimum System Requirements to Run the  
*TRADE UP! Careers in Construction* CDROM**

**PC:** 166 Pentium  
32 000 colour SVGA  
Sound Blaster compatible sound card  
4X CDROM drive  
Windows 95 or later  
QuickTime 3.0 for Windows  
32 MB RAM

**Mac:** Power PC 604 Processor  
14-inch monitor  
thousands of colours at 640X480  
4X CDROM drive  
System 7.1 or later  
QuickTime 3.0  
32 MB RAM available

## ACKNOWLEDGEMENTS

The *TRADE UP!* CDROM was developed under the auspices of the Construction Owners Association of Alberta and funded by a consortium of Alberta construction owners, contractors, labour unions, employer associations, and provincial and federal government departments.

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Local #63  
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International Brotherhood of Painters and Allied Trades, Local #177	Lockerbie & Hole Contracting Limited
International Union of Operating Engineers, Local #955	Mechanical Contractors Association of Alberta
	Petro Canada
	Plumbers & Pipefitter, Local Union 488
	Professional Home Builders Institute of Alberta
	Sheet Metal Workers' International Association, Local #8
	Skills Canada Alberta
	Thermal Insulation Association of Alberta

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## TABLE OF CONTENTS

Preface .....	iii
Acknowledgements .....	v
Introduction .....	1
The <i>TRADE UP!</i> CDROM .....	5
Curriculum Connections .....	9
Career Paths in Construction .....	13
Frequently Asked Questions About Working in Construction .....	17
Student Materials .....	19

# INTRODUCTION

## Purpose

The *TRADE UP!* CDROM was developed to help youth discover, explore and more fully understand careers and career paths in the four sectors of the construction industry—commercial, industrial, residential and road building.

The focus of *TRADE UP!* is Alberta's vibrant construction industry. The *TRADE UP!* CDROM shows students that numerous and varied opportunities are available in the construction industry and encourages them to consider if their individual skills, aptitudes and interests might fit with a career in this area. This Teacher Guide was funded by the Construction CDROM Development Committee and developed by Alberta teachers and staff from Alberta Learning.



The *TRADE UP!* CDROM and Teacher Guide are designed as resources for those who assist young people with their career choices and planning. For example, career and technology studies teachers can use the *TRADE UP!* materials to support the career exploration components of the Fabrication Studies and Construction Technologies strands. Counsellors, work experience coordinators, and teachers of CALM 20 and Career Transitions can use the student activities in this guide to help students plan their careers and build portfolios.

## Potential Uses of *TRADE UP!* Materials

User	Potential Uses
Student	Personal and career investigation
Career advisor—counsellor, teacher, work experience coordinator, career centre manager	Work/occupational investigations Student activities Resource for giving talks and presentations
Parent	Information gathering about opportunities, key contacts and other resources Resource for giving talks and presentations
Community partner; e.g., business owners	Off-campus learning programs for students Resource for giving talks and presentations

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## **Why Alberta Students Need to Know More About Careers in the Construction Industry**

For many years in Alberta, a large number of students and their parents have failed to give serious consideration to a career in the construction industry or to careers in the trades. There has been a lack of accurate information about the nature of the work in the construction industry and about the opportunities and benefits that are available to those who go into an apprenticeship. In fact, a career in the trades can be an excellent choice.

Here are several good reasons why students with the appropriate aptitudes and interests should consider a career in the construction industry.

- **Construction workers have a high level of job satisfaction**

Most workers in construction report that their careers are rewarding. Construction workers find it satisfying to be involved in the building of structures that remain in communities for many years. A real sense of pride comes from being a part of a construction project that directly benefits the citizens of the community. The work also offers a variety of experiences. There are often opportunities to work with different people on different projects ... sometimes even in different countries around the world. A large number of the occupations in the construction industry are in the trades. Others are in designated occupations and in informal learn-on-the-job occupations.

- **Trades open doors to other opportunities**

Learning a trade can open doors to a wide variety of opportunities in related fields, including management, trade education or small business ownership. A career in the trades develops a broad set of skills, including interpersonal, communication and management skills, and provides an excellent backdrop for career paths in the construction industry.

- **Earn while you learn**

Many jobs in the construction industry are in the trades, trained through a structured apprenticeship program. The money starts coming in from day one. Journeymen are paid \$17 to \$29 per hour, plus benefits, and first year apprentices earn about 50% of the journeyman's wage. Apprentices receive about 80% of the training on the job, while earning an income, and about 20% of their training in technical training. The curriculum for technical training is set by industry and is taught at colleges or technical institutes. Upon completion of the apprenticeship program, graduates earn an Alberta Journeyman Certificate, widely regarded as a high quality trades certificate. From a financial as well as an educational point of view, work-based learning with pay can be an excellent option for many young people.

- **It's where the jobs are**

A factor in the demand for construction and other trades workers is the aging work force. In 1999, the average journeyman plumber in Alberta was 42 years old. The average age of construction workers and trades workers in general is in the mid-40s. Large numbers of construction jobs are available now, and even more will be opening up as current workers retire. Construction workers tend to retire or leave the trade in their mid-50s.

## **THE *TRADE UP!* CDROM**

The *TRADE UP!* CDROM is linked to a web site, which can be updated, at <<http://www.careersconstruction.com>>. The CDROM uses high-energy music and appealing design to draw students in and motivate them to learn more about the world of the construction worker.

The *TRADE UP!* CDROM includes information about the following occupations that are available in the construction industry.

### **Trades<sup>1</sup>**

Boilermaker	Ironworker – Metal Building Systems Erector
Bricklayer	Lather – Interior Systems Mechanic
Cabinetmaker	Millwright
Carpenter	Painter and Decorator
Concrete Finisher	Plumber
Crane and Hoisting Equipment Operator	Power Lineman
Electrician	Roofer
Elevator Constructor	Sheet Metal Worker
Floorcovering Installer	Sprinkler Systems Installer
Gasfitter	Steamfitter – Pipefitter
Glazier	Structural Steel and Plate Fitter
Heavy Equipment Technician	Tilesetter
Insulator	Welder
Ironworker	

### **Designated Occupations**

Warehouse Technician  
Construction Craft Labourer  
Plasterer

### **Learn-on-the-Job Occupations**

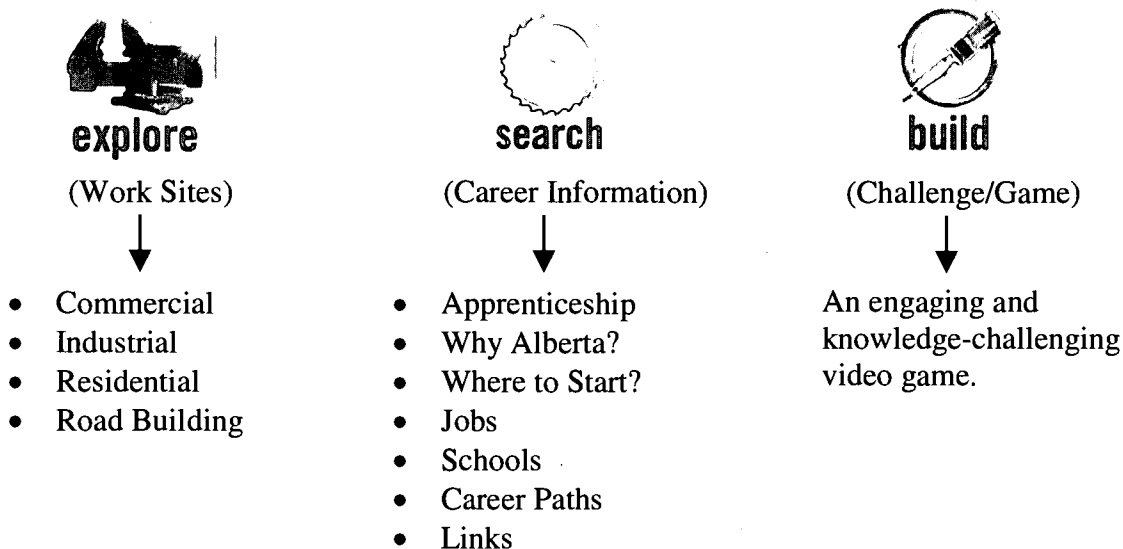
Cribber	Truck Driver
Framer	Heavy Equipment Operator

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<sup>1</sup> See page 13 for more information on trades and how to get into a trade.

## Organization of the CDROM

The *TRADE UP!* CDROM is organized into three main sections called Explore, Search and Build.



### Explore



Users who select the Explore option are invited to visit virtual construction sites that represent the four sectors of the construction industry—commercial, industrial, residential and road building. In each case, the user can view the site at its earliest stage and then, using a navigation bar at the bottom of the screen, advance the graphic through eight distinct stages in the construction of a typical project.

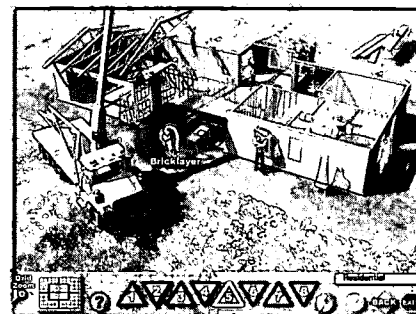
By clicking on the image of any worker shown on the virtual job site, users can bring up information about that person's occupation.

Each of the pages describing specific occupations includes an option to click on a movie reel icon and bring up a musical sound track and video depicting workers on actual Alberta job sites.

Each page describing an occupation includes a navigation bar that allows users to look up answers to the most frequently asked questions about the occupation:

- Who am I?
- What do I do?
- How much do I make?
- Where do I go from here?
- How do I learn?

Users can get answers to other questions by clicking on a "More Info" option that provides a list of contacts.





The Explore section helps youth:

- understand the scope of the construction industry
- identify the various roles and responsibilities of those who work on construction sites—labourers, trades workers, suppliers, consultants and managers
- recognize the importance of safety, quality assurance, efficiency and project management.

## Search

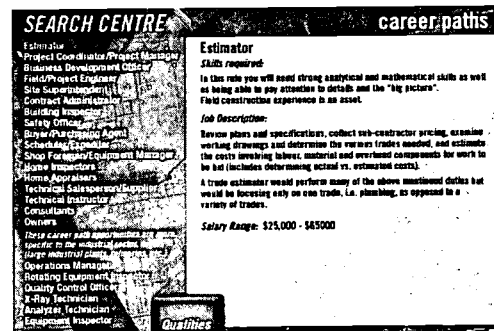


search

The Search section helps youth investigate various forms of work available in the construction industry, both for entry into the industry and for career advancement.

The Search Centre is the heart of the *TRADE UP!* CDROM. A navigation bar leads users to these topics:

- Apprenticeship
- Why Alberta?
- Where to Start?
- Jobs
- Schools
- Career Paths
- Links.



**Apprenticeship** provides information about the nature of apprenticeship in Alberta, including “clickable” definitions of terms that may require additional explanation. By clicking on a television screen in the corner of the page, users can view six video clips of young apprentices and trades workers on actual Alberta job sites. Each young person talks about how he or she has benefited from the apprenticeship system.

**Why Alberta?** explains the high demand for workers in the trades in Alberta and the impact of our aging work force. A chart and a map show projections of future needs in various occupational areas. Six video clips of people on real Alberta job sites provide more information about these people’s careers. One segment includes frank information about the drawbacks of a career in construction.

**Where to Start?** discusses several ways to enter an apprenticeship and includes six video clips of Alberta job sites. One clip features female trades workers discussing how they first started in the trades and how they cope with their nontraditional career paths.

**Jobs** provides a list of all the trades and occupations contained in the CDROM, with the option of clicking on any one of them to obtain detailed information. A short video depicting workers on Alberta sites is available for each occupation listed. These are the same links that are accessed through the virtual construction sites in the Explore section described above.

**Schools** lists the training centres in the province. Six video clips focus on the importance of education in pursuing a trade and how trades education can be a viable alternative to university or college.

**Career Paths** focuses on the flexibility of training in the trades and its “branching” nature. Trades education can be the starting point for any number of related occupations within the construction industry. Six video clips focus on this reality as well as the high level of job satisfaction reported by many construction workers.

**Links** lists a variety of agencies that can provide more information about careers in construction and related topics.

Students can use the Search section to investigate and compare various work and learning options. They can connect their academic, essential and technical skills with skills needed in the construction industry. They can identify:

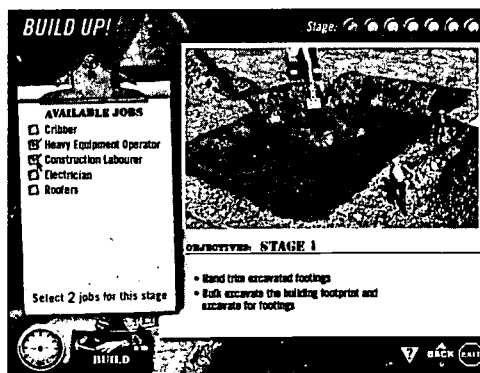
- skills that are most transferable in the construction industry
- skills they would need to develop if they decide to work in the construction industry
- sources of support for further learning.

## Build



Users who select the Build option are invited to play an engaging and challenging video game. The game requires players to apply the knowledge they have acquired in the Explore and Search components of the *TRADE UP!* CDROM.

Through a competitive game format, students learn more about the challenges and satisfaction inherent in construction careers. They manage a construction project, using their knowledge to determine how to sequence construction activities effectively.



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## CURRICULUM CONNECTIONS

The *TRADE UP!* CDROM and Teacher Guide are suitable resources for any course that deals with career and learning opportunities. In junior and senior high school, these courses include:

### Health and Personal Life Skills 7–8–9

This required program includes a theme on Life Careers. Students consider their personal interests, aptitudes and abilities in relation to career awareness and personal career planning.

By the end of Grade 9, students are expected to:

- use occupational classifications
- investigate different occupations and their educational requirements
- discuss the changing roles of men and women and the effect of stereotyping
- develop a personal career plan
- develop a profile of personal strengths and uniqueness.

### Career and Life Management 20

This course is designed to assist students in organizing and shaping their lives occupationally, financially and socially.

The core curriculum is structured into six themes:

- self-management
- well-being
- relationships
- careers and the world of work
- independent living
- human sexuality.\*

### Work Experience 15–25–35

This sequence of courses is available to senior high school students. Students work with an employer to complete individually-defined learning experiences. One credit is earned for each 25 hours of experience. Students are required to complete the Career Transitions CTR1010: Job Preparation 1-credit course as a prerequisite or corequisite to their first work experience course.

### Registered Apprenticeship Program (RAP)

Students can continue to work toward their high school diploma and/or certificate of achievement at the same time as they apprentice in a trade. See pages 14–16 for more information on apprenticeship and RAP.

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\* Parents may withdraw students from this theme by contacting the local school.

## Career and Technology Studies (CTS)

Career and Technology Studies provides students with practical, hands-on learning experiences in the areas of personal interest, applied technology and general career exploration. In CTS, students have the opportunity to use and apply technology effectively and efficiently to solve problems and/or produce usable products within a personally relevant working environment.

Students in career and technology studies are expected to be able to:

- develop skills that can be applied in their daily lives now and in the future
- refine career planning skills
- develop technology-related skills
- enhance employability skills
- apply and reinforce learning developed in other subject areas.

The following CTS strands can help students learn about work in the construction industry as well as develop competencies they can use for entry into the workplace or for entry into related programs at technical institutes or colleges:

- Construction Technologies
- Fabrication Studies
- Design Studies
- Career Transitions, including Career Directions.

The following are just two examples of how the *TRADE UP!* CDROM and Teacher Guide might be used as teaching and learning resources.

### Construction Technologies (CTS Strand)

Teachers could use the *TRADE UP!* CDROM and Teacher Guide in the CON1070: Building Construction course to introduce students to the opportunities available in the construction industry.

Introductory level students might spend a class playing the game in the Build section of the CDROM or doing one of the simpler crossword puzzles provided in the Student Materials section of this guide. Intermediate students who have decided to pursue a career related to construction technology could complete the career profile assignments provided in the Student Materials section. These assignments would be useful additions to a career portfolio.

The virtual residential construction site would be a good vehicle for helping students understand the sequence of events in a residential job. For example, this resource could be used in the following 1-credit courses: CON2010: Site Preparation, CON2040: Framing Systems 1, CON2060: Exterior Finishing, CON2070: Electrical Systems, and CON2080: Plumbing Systems.

Advanced level students could use the virtual commercial or industrial construction site in the CON3100: Commercial Structures course. They could also explore some of the links included on the *TRADE UP!* web site at <<http://www.careersconstruction.com>>.

### **Fabrication Studies (CTS Strand)**

Teachers could use the *TRADE UP!* CDROM and Teacher Guide in the FAB1160: Production Systems course to introduce students to the opportunities available in the construction industry.

Introductory level students would probably enjoy the game in the Build section of the CDROM and perhaps a simple crossword puzzle provided in the Student Materials section of this guide. Students in intermediate and advanced level Fabrication Studies courses could complete Student Activities 2 and 3 in the Student Materials section of this guide as part of their *TRADE UP!* career preparation components in each course. Advanced level students could explore some of the links included on the *TRADE UP!* web site.

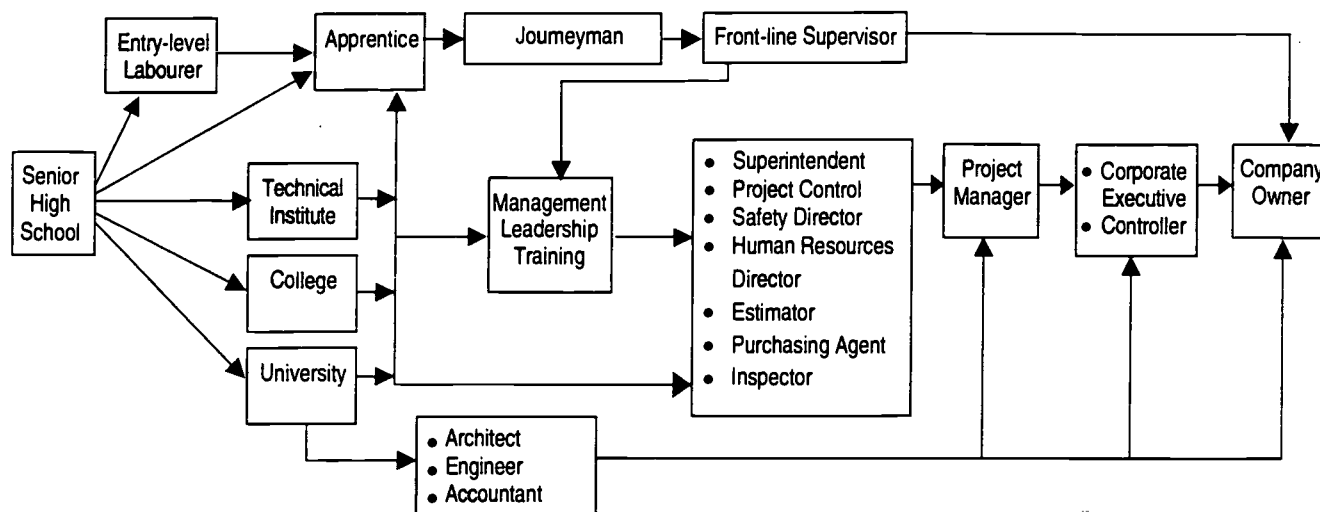
### **Parents**

**Note:** Parents should also be encouraged to visit the *TRADE UP!* web site to learn more about careers in the construction industry. They might also talk to teachers of Construction Technologies and Fabrication Studies, who are often journeymen in particular trades.

# CAREER PATHS IN CONSTRUCTION

Most people enter the construction industry as apprentices and work toward obtaining journeyman status. A journeyman can then move into a wide variety of career opportunities as shown in the following chart.

**Construction Industry Career Paths**



Many others also work in the construction industry. In addition to the occupations noted on page 5, the *TRADE UP!* CDROM provides information about the skills required, job duties and potential income of the following occupations, as defined by the construction industry partners involved in this project.

- Analyzer Technician
- Building Inspector
- Business Development Officer
- Buyer/Purchasing Agent
- Company Owner
- Consultant
- Contract Administrator
- Equipment Inspector
- Estimator
- Field/Project Engineer
- Home Appraiser
- Home Inspector
- Operations Manager
- Project Coordinator/Project Manager
- Quality Control Officer
- Rotating Equipment Inspector
- Safety Officer
- Scheduler/Expediter
- Shop Foreman/Equipment Manager
- Site Superintendent
- Technical Instructor
- Technical Salesperson/Supplier
- X-ray Technician

# **Apprenticeship Pathways**

## **Apprenticeship basics**

An apprentice is someone learning a trade while he or she is employed.

Apprenticeship is a combination of on-the-job training, work experience and technical training in a trade. Apprentices spend about 80% of the time learning on the job from a qualified tradesperson. The rest of the time they take technical training, usually at colleges or technical institutions. Depending on the trade, and the region in Alberta, there are also other methods of delivery of technical training. The apprenticeship program lasts between 1 and 4 years. From day one, apprentices earn money for their time on the job. First year apprentices earn about half of a journeyman's wage. The pay increases as the training progresses.

When apprentices complete their apprenticeship, they graduate to certified journeymen. The Alberta Journeyman Certificate proves to themselves and to any future employer that they meet Alberta's high industry standards.

There are more than 50 apprenticeship trades and crafts in Alberta.

## **Who can enter an apprenticeship program?**

Age doesn't matter. You can enter apprenticeship during senior high school or any time after. Most first-time apprentices are in their late teens or early 20s. Some first-year apprentices are in their 40s and 50s.

To be an apprentice, you need to:

- complete Grade 12\*, or
- write and pass an entrance examination, or
- take part in the Registered Apprenticeship Program (RAP) while you are still in senior high school, earning an income and credit toward your apprenticeship and your senior high school certificate of achievement. For a brochure on RAP, call the Apprenticeship and Industry Training Office in your area.

## **Some other facts about apprenticeship training in the trades**

- Apprentices who have successfully completed their apprenticeship program—hours of work, successful technical training and successful examinations—obtain a Journeyman Certificate. Additionally, certification under the Interprovincial Standards (Red Seal) Program is available. The Red Seal on a Journeyman Certificate provides a journeyman with mobility to other provinces and territories.
- Union membership in the trades depends on the employer. Some businesses are union and others are not.

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\*Some trades do not require Grade 12, but many employers prefer to hire senior high school graduates.



- A compulsory certification trade requires people in the trade to be a registered apprentice or a certified journeyman. Of the trades included in the *TRADE UP!* CDROM, the following are compulsory certification trades (C) and/or are available for Red Seal (R).

Boilermaker (C) (R)	Ironworker (C) (R)
Bricklayer (R)	Lather – Interior Systems Mechanic (R)
Cabinetmaker (R)	Millwright (R)
Carpenter (R)	Painter and Decorator (R)
Concrete Finisher (R)	Plumber (C) (R)
Crane and Hoisting Equipment Operator (C)	Power Lineman (R)
Electrician (C) (R)	Roofer (R)
Elevator Constructor (C)	Sheet Metal Worker (C) (R)
Floorcovering Installer (R)	Sprinkler Systems Installer (R)
Gasfitter (C)	Steamfitter – Pipefitter (C) (R)
Glazier (R)	Structural Steel and Plate Fitter (R)
Heavy Equipment Technician (C)	Welder (C) (R)
Insulator (R)	

- The Alberta Apprenticeship and Industry Training web site at <<http://www.tradesecrets.org>> provides additional information about apprenticeship training programs in the trades in Alberta.

### How to get started while still in senior high school

Students taking career and technology studies can develop technical skills to help determine their suitability for a career in the trades and to earn valuable work-related experience. In many cases students who have taken required career and technology studies courses, and successfully challenge appropriate theory and practical examinations, may receive credits toward an apprenticeship. The same applies for those who have taken certain kinds of post-secondary training. These credits can shorten the time it takes to complete an apprenticeship and become a certified journeyman.

The following chart summarizes apprenticeship articulation agreements currently in place.<sup>1</sup>

<i>Apprenticeship Trade</i>	<i>Length of Program</i>	<i>Number of Required CTS 1-Credit Courses</i>	<i>Credit for Formal Training</i>	<i>On-the-Job Time Credit</i>
Automotive Service Technician	4 yrs	25	1 <sup>st</sup> Period	Nil
		35	1 <sup>st</sup> & 2 <sup>nd</sup> Period	525 hrs
Cabinetmaker	4 yrs	30	Nil	408 hrs
Carpenter	4 yrs	25	1 <sup>st</sup> Period	Nil
Electrician	4 yrs	25	1 <sup>st</sup> Period	Nil
Electronic Technician	4 yrs	25	1 <sup>st</sup> Period	Nil
Welder	3 yrs	25	1 <sup>st</sup> Period	Nil

<sup>1</sup> Additional articulations are available for hairstylist and cook.



Alberta's innovative Registered Apprenticeship Program (RAP) allows full-time senior high school students to begin an apprenticeship training program as early as Grade 10, earning credit toward both a senior high school diploma and an apprenticeship program at the same time. How?—through a flexible partnership among the RAP apprentice, the employer and the school.

How is RAP different from regular apprenticeship training?

The differences in RAP make the program especially attractive to employers interested in training part-time apprentices. Hours of work are decided together by the employer, the RAP apprentice and the school—they can be quite flexible. Options include:

- working as a RAP apprentice one semester and attending school the next
- working mornings as a RAP apprentice and going to school in the afternoon, or vice versa
- working as a RAP apprentice in the summer, on holidays and on weekends, and attending school during the regular term
- working as a RAP apprentice one or two days a week and going to school on the other days.

RAP apprentices are paid at least minimum wage. Until they leave senior high school they work part time, because they are still full-time senior high school students. Their apprenticeship technical training is normally delayed until after senior high school.

Awards are available for CTS and RAP students through the Alexander Rutherford Scholarships for High School Achievement.

## FREQUENTLY ASKED QUESTIONS ABOUT WORKING IN CONSTRUCTION

*Q. Do you have to be big and strong to work in construction?*

A. No. The construction industry has become increasingly high tech, and there are many facets of the industry that do not feature hard physical labour.

*Q. Are there opportunities to get ahead in the construction industry?*

A. Like any career, you can go as far in construction as your ambition leads you. Every job has an entry-level position, but from there the selection of occupational choices widens and the sky is the limit. From labourer to tradesman to superintendent to project manager to company owner, there are many opportunities.

*Q. Is a construction career low tech in this high tech world?*

A. Somewhere between, depending on the trade and the company. As buildings become more high tech, so do the trades that put them up. There are some aspects of the trades that don't change, but like everything else in this high tech world, many facets of trades have become very technology intensive.

*Q. Is construction safe?*

A. Construction companies have taken up the challenge of providing a safe workplace for employees and have been successful in limiting the dangerous work. There is a certain amount of risk in any job, but the construction industry takes its responsibility very seriously in this regard and has vastly improved workplace safety in the last few years.

*Q. What are the long-term job outlooks for someone working in construction?*

A. Excellent. With the growth projected in many trade areas, and the number of people retiring in the next few years, there will be a lot of room for people starting out and a lot of room for advancement.

*Q. If I change my career direction later in life, can a trade ticket help me?*

A. Yes. Having an Alberta Journeyman Certificate proves to future employers that you have what it takes to see something through to the end and that you have met high industry standards. Also, many of the skills you learn in a trade are transferable to other occupations.

*Q. If I get two trades, does that make me more employable?*

A. Having two areas of expertise can't hurt! Some maintenance jobs require you to have more than one trade ticket. Employers that have this requirement will often assist you in acquiring a second ticket.

*Q. How do I get someone to hire me as an apprentice?*

A. There are a number of different methods, including:

- answering advertisements from companies looking for apprentices
- networking with friends and acquaintances to find companies looking for apprentices
- using a non-apprenticeable, entry-level job; e.g., construction labourer, as a good starting point.

*Q. Do I get paid during the apprenticeship period?*

A. Yes. You get paid on a sliding scale, usually starting at 50% of what the journeyman makes. As you move from one period of training to another your pay goes up.

*Q. What is the length of time that I have to go to technical training during my apprenticeship?*

A. It varies depending upon the trade. It can be as short as a couple of weeks a year to as many as twelve weeks a year.

*Q. If I get my trade ticket in Alberta can I work in other provinces?*

A. If you get a Red Seal on your Journeyman Certificate, you are able to work in your trade in other provinces that recognize the Red Seal. Obtaining a Red Seal usually involves writing a second final examination known as the "red seal exam."

*Q. Do I need to belong to a union to work in a trade?*

A. No. It depends on the employer. Some businesses are union and others are not.

*Q. Do I have to be male to work in the construction industry?*

A. No. There are many females now working in many sectors of the construction industry in Alberta today.

*Q. Will I have to work out of town a lot?*

A. There are different sectors of work in the construction industry, such as commercial, residential, industrial and road building. Residential and commercial work tends to be in town, while industrial and road building jobs often involve working out of town.

## STUDENT MATERIALS

The following materials are designed to encourage junior and senior high school students to explore the *TRADE UP!* CDROM and learn more about the construction industry, where they might fit into it and how to plan for a career in this area. Teachers may copy these materials as required.

### Student Handouts

Pages 21 and 22 outline basic information on the career planning process.

Page 23 lists various trades in Alberta.

Page 24 lists sources of information to investigate work in the construction industry.

Page 25 could be used to create an overhead transparency about construction industry career paths.

### Student Activities

Activity	Notes
1. Is a Career in the Trades Right for Me?	This activity can help students identify skills and abilities needed in the trades, as well as help them expand their awareness of the skills that they may already have that are valued in the construction industry.
2. Investigating Work in the Construction Industry	In this activity, students will learn how to use the <i>TRADE UP!</i> CDROM to investigate work opportunities. By completing the Occupational Investigation Worksheet, they learn about particular occupations and identify some of the questions they may raise when assessing various work options. To do more in-depth investigation on a particular occupation, students can go to the Alberta Learning Information Service web site at < <a href="http://www.alis.gov.ab.ca">http://www.alis.gov.ab.ca</a> >, click on Occupational Information, then OCCINFO. As well, the Human Resources Development Canada Career Awareness web site at < <a href="http://www.hrdc-drhc.gc.ca/career/">http://www.hrdc-drhc.gc.ca/career/</a> > will give students an in-depth review of the essential skills <sup>1</sup> used in various occupations.
3. Using the <i>TRADE UP!</i> CDROM to Gather Occupational Information	<p>This activity helps students to use the Search component of the CDROM to gather occupational information. Students could work individually or in groups. To encourage efficient use of the CDROM, the activity could be timed. An answer key is provided to help teachers and/or students check the answers.</p> <p>Students could work in groups to develop their own questions and answer key, and then challenge other groups to answer their questions within a set time period.</p>

<sup>1</sup> Essential skills research, a project of Human Resources Development Canada, identifies how workers use reading text, documents, writing, numeracy, oral communication, thinking skills, working with others, computers and continuous learning in their daily work. **Note:** Essential skills profiles are not available for all occupations.

- |   |  |
|---|--|
| <p>4. Understanding Trades and Apprenticeship in Alberta</p>        | <p>Students will use the <i>TRADE UP!</i> CDROM to better understand the apprenticeship and trade system in Alberta. Additional information is available from the Alberta Apprenticeship and Industry Training web site at &lt;<a href="http://www.tradesecrets.org">http://www.tradesecrets.org</a>&gt;. Local apprenticeship offices can provide additional materials, help students register in RAP programs, make presentations, do displays at career fairs and/or help identify tradespersons for guest speakers. See page 24 for sources of information.</p>  |
| <p>5. Comparing Occupational Options</p>                            | <p>This activity will help students identify some of the factors that they need to consider when making career plans. It will also help them learn how to critique/assess various occupational options on the basis of those factors that are most important to them. It is important to encourage students to frequently review and revise the factors they are using to screen/assess the various occupational opportunities. The factors they have selected may well change and/or become more detailed. The Personal Career Decision-making Grid introduced in this activity could also be used to assess learning opportunities—trade training, on-the-job training, technical institutes, college, university.</p> |
| <p>6. Work Investigation—Interviewing Someone “In the Business”</p> | <p>This activity provides a template for contacting and interviewing someone who is involved in an industry or occupation that is on the student’s career “short list.” Use Activity 5 to develop the “short list.” Students will learn the basic processes for setting up and holding an interview as well as follow-up activities. These processes can be used for any work/learning investigation.</p>  |
| <p>7. Crossword Puzzle</p>  | <p>These crossword puzzles can help students develop vocabulary and knowledge of concepts included in the <i>TRADE UP!</i> CDROM. Students, working individually or in pairs, could complete the puzzles with or without using the CDROM and then use the CDROM to check/find the correct answers. The puzzles are increasingly more detailed, building on questions used in previous puzzles.</p>   |
| <p>8. Crossword Puzzle</p>  |  |
| <p>9. Crossword Puzzle</p>  |  |
| <p>10. Crossword Puzzle</p>   |  |

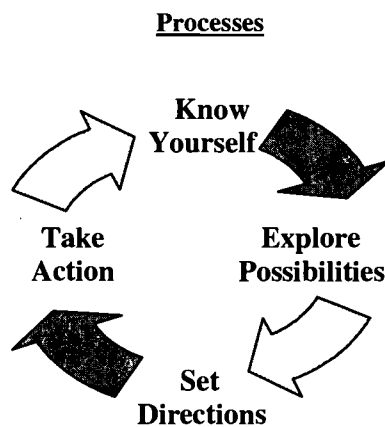
# CAREER PLANNING

## *Thinking about what you want to do when you leave senior high school?*

It isn't always easy to make decisions about your future, but you will be more likely to be successful if you:

- **know yourself.** Reflect on what you like, what you are interested in, and what competencies and experience you have. Be confident in your ability to succeed!
- **explore learning and work possibilities.** Keep your options open by investigating as many different work and learning options as you can. Try things out, and talk to people working in jobs you might like. The *TRADE UP!* CDROM is designed to help you explore work and learning opportunities in Alberta's construction industry.
- **set directions.** Put together a "tool kit" to help you make decisions and be prepared for a successful transition from senior high school—whether you plan to move directly into the workplace, or into further learning experiences at a post-secondary institution, or as an apprentice. The tool kit might include:
  - career portfolio
  - occupational/industry investigations (at least two)
  - learning investigations (at least two)
  - personal transition scenarios (Plan A and Plan B)
  - action plans to improve your:
    - essential competencies (employability skills)
    - learning capacity
  - personal support network—list of people, agencies, resources that can help you.
- **take action.** Prepare a plan and implement it. It may be a matter of taking courses that will help you develop the knowledge and skills you need. Perhaps you will want to volunteer or get some related work experience. Try to improve your "soft skills," such as communication and teamwork—they are the essential competencies you need in any work and in your daily life.

You make the decisions; you live with the consequences. Remember that there are many sources of support that you can access—people in your school and community, print and video materials available in your school library or career centre, and many excellent Internet sites. Contact your school counsellor and/or teacher advisor for help in taking the next step and building your career "tool kit."



# CAREER PLANNING

***Plan to “build” your career throughout your life!***

*When making plans, consider the “High 5 Plus One”—key messages for career building in the 21<sup>st</sup> Century*

## ***Change is constant***

Adaptability is one of the most important skills you’ll carry into the twenty-first century.

## ***Follow your heart***

Let your dreams shape your goals so that you go after what you really want.

## ***Team up with your allies/Be an ally***

Your friends, family and teachers can be valuable resources in helping you achieve your goals.

## ***Learning is ongoing***

The end of school doesn’t mean the end of learning. Opportunities to learn are all around.  
Take advantage of them!

## ***Focus on the journey***

Life is not a destination. It’s an exciting trip with many directions and goals that may change.

## ***Believe in yourself***

Have confidence that you have the skills and ability to meet new challenges and attain your goals.

Remember, effective career planning is not:

- making ONE BIG DECISION about which occupation to choose
- choosing an occupation to last a lifetime
- doing a quick test with a printout of possible occupations
- matching a list of aptitudes and interests with a list of possible occupations
- only preparing your résumé and polishing your interview skills.

Don’t forget you will apply the career building skills you use now many times throughout your life as you take advantage of opportunities and move toward your goals.

# TRADES IN ALBERTA

Agricultural Mechanic (R)	Instrument Technician (R)
Appliance Service Technician (C) (R)	Insulator (R) ★
Auto Body Technician (C)	Ironworker (C) (R) ★
Collision and Refinishing (R)	Metal Building Systems Erector ★
Collision	Landscape Gardener
Refinishing (R)	Lather – Interior Systems Mechanic (R) ★
Automotive Service Technician (C) (R)	Locksmith
Baker (R)	Machinist (R)
Boilermaker (C) (R) ★	Millwright (R) ★
Bricklayer (R) ★	Motorcycle Mechanic (C) (R)
Cabinetmaker (R) ★	Painter and Decorator (R) ★
Carpenter (R) ★	Partsman (R)
Communication Electrician	Plumber (C) (R) ★
Construction Craft	Power Lineman (R) ★
Network Craft	Power System Electrician
Concrete Finisher (R) ★	Printing and Graphic Arts Craftsman
Cook (R)	Pre-Press
Crane and Hoisting Equipment Operator (C) ★	Press
Boom Truck	Bindery
Mobile Crane (R)	Recreation Vehicle Service Technician (C)
Tower Crane	Refrigeration and Air Conditioning
Wellhead Boom Truck Operator	Mechanic (C) (R)
Electrical Motor Systems Technician (R)	Roofer (R) ★
Electrician (C) (R) ★	Sawfiler
Electronic Technician (C) (R)	Circular Sawfiler
Elevator Constructor (C) ★	Sheet Metal Worker (C) (R) ★
Floorcovering Installer (R) ★	Sprinkler Systems Installer (R) ★
Gasfitter (C) ★	Steamfitter – Pipefitter (C) (R) ★
Glazier (R) ★	Structural Steel and Plate Fitter (R) ★
Auto Glass Technician	Tilesetter ★
Hairstylist (C) (R)	Tool and Die Maker (R)
Heavy Equipment Technician (C) ★	Transport Refrigeration Technician
Heavy Duty Equipment Mechanic	Water Well Driller
(Off Road) (C) (R)	Welder (C) (R) ★
Truck and Transport Mechanic (C) (R)	
Truck-Trailer Mechanic (C)	

(C) Compulsory Certification Trade

(R) Red Seal

★ Included in the *TRADE UP!* CDROM

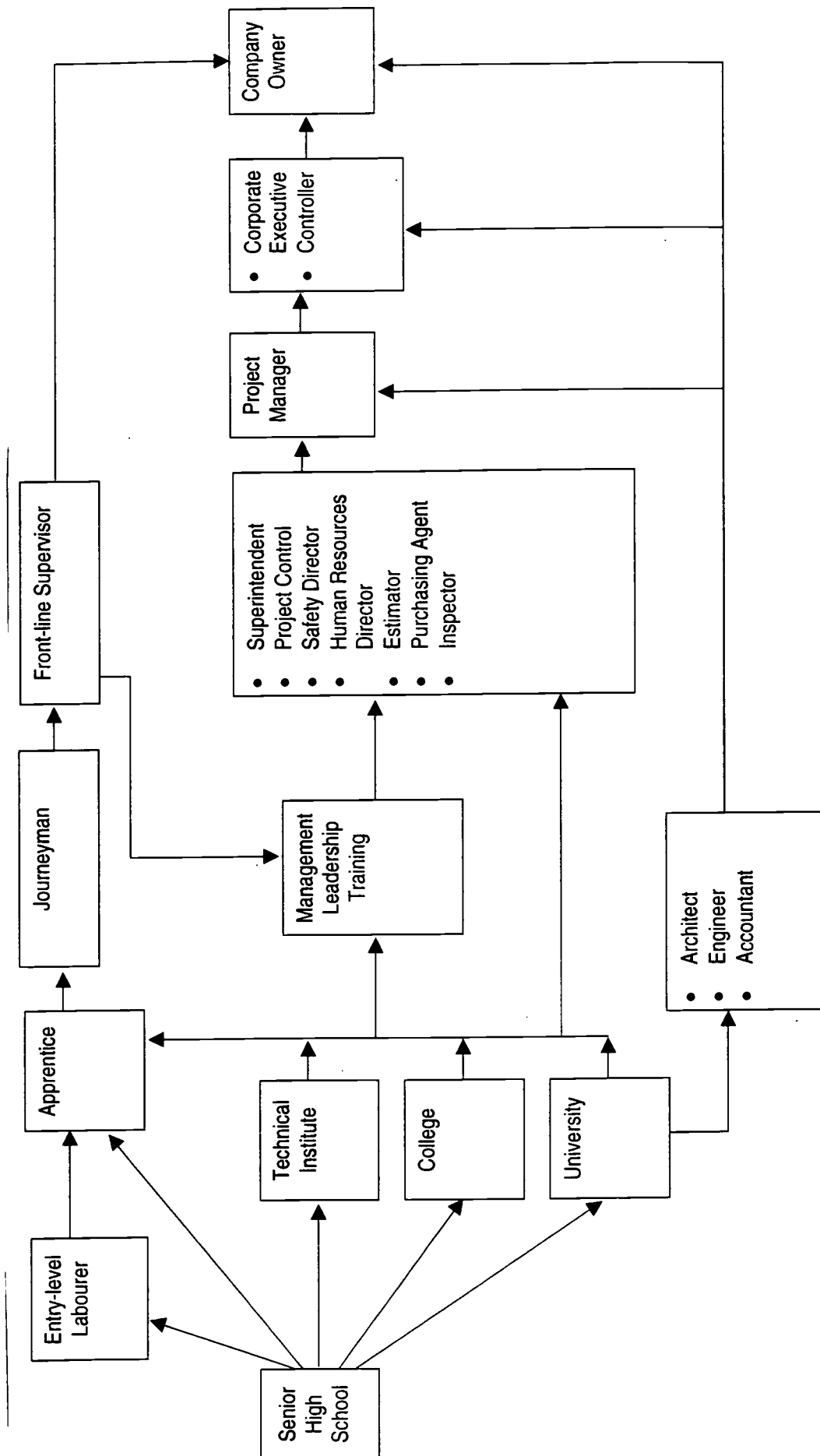


# SOURCES OF INFORMATION

For more information:

- talk to career and technology studies teachers, work experience coordinators, Registered Apprenticeship Program (RAP) coordinators, career counsellors and school administrators
- visit a Canada–Alberta Service Centre, Career Development Centre or Youth Connections Centre for career information. For addresses, call the Career Information Hotline at 1–800–661–3753, dial 780–422–4266 in Edmonton, go online at <<http://www.alis.gov.ab.ca>> or <<http://www.tradesecrets.org>>, or email <[info@alis.gov.ab.ca](mailto:info@alis.gov.ab.ca)>
- contact the Alberta Apprenticeship and Industry Training Office near you, the senior high school RAP coordinator or CAREERS: The Next Generation at 780–426–3414 to find out about RAP programs and job placements.

# CONSTRUCTION INDUSTRY CAREER PATHS



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35

34

# ACTIVITY NO. 1 IS A CAREER IN THE TRADES RIGHT FOR ME?<sup>1</sup>

Name: \_\_\_\_\_

Review the following list of skills and abilities that are often used in the trades. Check those items you enjoy, do well and/or will develop. If you can check many of the items, a career in the trades may be a good choice for you.

## ☐ Working with machines or tools

I Enjoy	I Do Well	I Will Develop	Skills and Abilities Used in Trades	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Operating	Controlling, guiding or otherwise running tools, machines or other equipment
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Assembling	Putting things together
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Adjusting	Changing the setting on machines, devices or electrical equipment to improve performance
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Building/Constructing	Using tools to build or construct objects
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fixing/Repairing	Fixing machinery or equipment
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mechanical Reasoning	Understanding how machinery or tools operate and the relationship between mechanical operations

## ☐ Physical abilities

I Enjoy	I Do Well	I Will Develop		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Finger Dexterity	Being exact when you use your fingers to hold or move things
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Manual Dexterity	Doing accurate and precise work with your hands
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Motor Coordination	Being well-coordinated
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Reacting Quickly	Responding quickly when necessary
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Stamina	Doing physically tiring work over a long period of time without being exhausted

## ☐ Working with details

I Enjoy	I Do Well	I Will Develop		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Caution	Thinking about what you are doing, or working cautiously to avoid errors or accidents
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Precision	Being precise and accurate on the job; meeting all specifications
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Alertness	Noticing problems, or being able to tell when something is wrong
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Attending to Detail	Remembering to finish many small tasks; completing each step at the right time and in the right order
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Following Procedures	Doing things exactly as directed

<sup>1</sup> Source: *Careers in the Trades: A Presenter's Guide*, Alberta Learning, Apprenticeship and Industry Training, 2000. Skills and abilities have been combined from occupational profiles of many trades.

## ☐ Working with numbers

I Enjoy	I Do Well	I Will Develop
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Skills and Abilities Used in Trades

Calculating	Using basic shop mathematics
Measuring	Using tools or equipment to determine length, angle, volume or weight
Numerical Reasoning	Understanding how to work with and use numbers to solve problems

## ☐ Working with difficult situations

I Enjoy	I Do Well	I Will Develop
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Working Under Pressure	Meeting deadlines; working while you are being watched or evaluated by your supervisor
Performing Repetitive Tasks	Doing the same thing over and over again in exactly the same way
Tolerating Discomfort	Being able to work in physically uncomfortable surroundings or stressful situations, if the job requires

## ☐ Creativity

I Enjoy	I Do Well	I Will Develop
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Visualizing/Imagining	Being able to form a mental image of objects, forms, drawings, models and blueprints
Creating/Inventing/Improvising/Adapting	Originating new ideas or inventions; making changes or modifications to get the job done
Experimenting	Finding new and creative ways to accomplish tasks

## ☐ Communication skills

I Enjoy	I Do Well	I Will Develop
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Reading	Getting information from written material; following written instructions on what to do or how to operate something
Questioning	Asking appropriate questions to get useful information or clarification from others
Listening	Listening carefully to whatever the other person is saying, and responding appropriately
Talking	Communicating job-related information and requirements
Responding to Feedback	Listening to the negative and positive comments of others, and changing your behaviour if necessary

## ☐ Working with others

I Enjoy	I Do Well	I Will Develop
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Cooperating	Working together with others to reach a common goal; working as part of a team to complete a task
-------------	---

## ☐ Self-management skills

I Enjoy	I Do Well	I Will Develop
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Skills and Abilities Used in Trades

Efficiency	Planning your work; doing things without wasting time or energy
Dependability	Completing your work on time and being reliable
Flexibility	Changing tasks as needed; knowing how to do very different tasks; changing from one task to another
Pride in Performance	Taking pride in the quality of work that you do
Persistence	Working toward a goal in spite of distraction or interruption; concentrating on what you are doing
Enthusiasm	Being keenly interested in and excited about what you are doing

## ☐ Sensory

I Enjoy	I Do Well	I Will Develop
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Sound Discrimination	Hearing slight differences in sound
Shape Discrimination	Seeing small differences in shapes and sizes; observing how things are alike or different
Depth Discrimination	Accurately judging distance; judging how far away or apart things are
Colour Discrimination	Seeing small differences in colour

## ☐ Reasoning abilities

I Enjoy	I Do Well	I Will Develop
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Investigating/ Researching Analyzing	Gathering information in an organized way in order to establish certain facts or principles Breaking a problem into its parts so that each part can be dealt with separately
Synthesizing	Putting facts and ideas together in new and creative ways; finding new ways to look at problems or do things; creating new ideas, by putting old ideas together in a new way
Remembering	Having a good memory for facts, figures and incidences; being able to recall information accurately

## ☐ Working with or for customers

I Enjoy	I Do Well	I Will Develop
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Providing Service	Identifying customers' needs and wants; and meeting them, whenever possible
Ensuring Satisfaction	Checking with customers to ensure that they are satisfied with the products and services received

## Summary of Responses

Below, check those skills and abilities that you identified as ones you enjoy, do well and/or will develop.

I Enjoy	I Do Well	I Will Develop	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Working with machines or tools
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Using my physical abilities
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Working with details
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Working with numbers
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Working with difficult situations
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Using my creativity
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Using my communication skills
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Working with others
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Using my self-management skills
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Using my sensory abilities
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Using my reasoning abilities
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Working with or for customers

Consider including this sheet in your career portfolio.

### Action Plan

What will I do next?

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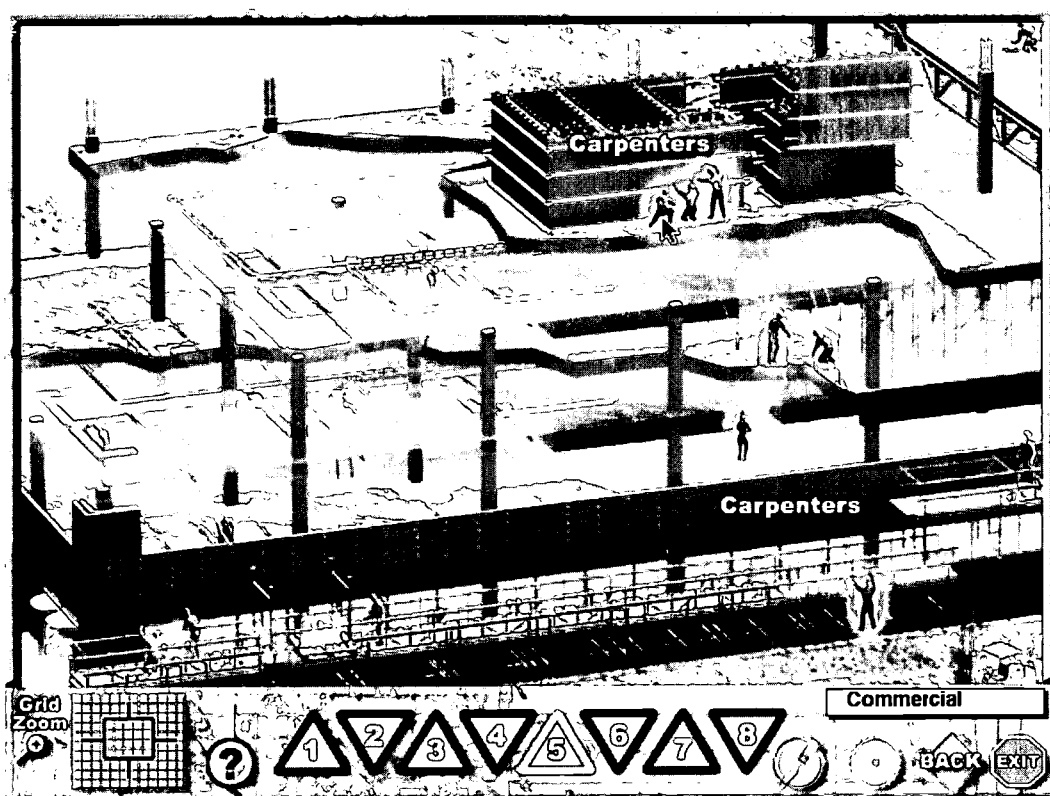
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**ACTIVITY  
NO. 2**

**INVESTIGATING WORK IN THE  
CONSTRUCTION INDUSTRY**

Name: \_\_\_\_\_

1. Open the Explore component of the *TRADE UP!* CDROM.
2. Select one of the types of construction—commercial, industrial, residential or road building.
3. Move through the eight stages of construction to identify how many occupations are involved at each stage. **Note:** On an actual construction site, many more workers and occupations will be involved.
4. Investigate one of the occupations by (1) highlighting an occupation of interest to you, (2) clicking to move to the section that provides more detailed information on the occupation, and (3) completing the Occupational Investigation Worksheet on the following page.
5. Complete other occupational investigations. Consider including the completed Occupational Investigation Worksheet in your career portfolio.





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# Occupational Investigation Worksheet

Name: \_\_\_\_\_

Type of construction (circle one)    Commercial    Industrial    Residential    Road Building

Stage of construction (circle one)           

Occupation

1. Type of work done in this occupation: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. The length of training for this occupation:

Years

Class sessions

3. Personal characteristics needed by a worker in this occupation: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. This worker can earn

\$                      to \$                      per hour

This could translate to

\$                      per year (assume a 40-hour week, 48 weeks/year)

5. The following courses could help me prepare for employment in this occupation:

- career and technology studies (CTS) courses

\_\_\_\_\_

- other courses; e.g., mathematics, sciences, English language arts, physical education, second/international languages.

\_\_\_\_\_

6. Why would I consider/not consider working in this occupation?

\_\_\_\_\_  
\_\_\_\_\_



**ACTIVITY  
NO. 3****USING THE *TRADE UP!* CDROM TO  
GATHER OCCUPATIONAL  
INFORMATION**

Name: \_\_\_\_\_

Use the Search component of the *TRADE UP!* CDROM to find answers to the following questions.

Question	Answer
1. What is an apprenticeship?	
2. Who is eligible to enter into an apprenticeship?	
3. What is a designated trade?	
4. Why would you do your apprenticeship in Alberta?	
5. What does a welder do, and how long is the apprenticeship training period?	
6. What does a carpenter do, and how long is the apprenticeship training period?	
7. What does a millwright do, and how long is the apprenticeship training period?	
8. What does a heavy equipment operator do, and how long is the training period?	
9. What salary can a carpenter expect to earn as a journeyman?	
10. What salary can a welder expect to earn as a journeyman?	

<b>ACTIVITY NO. 3</b>	<b>USING THE <i>TRADE UP!</i> CDROM TO GATHER OCCUPATIONAL INFORMATION—ANSWER KEY</b>
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Question	Answer
1. What is an apprenticeship?	1. An apprenticeship is a combination of on-the-job training, work experience and technical training. The apprentice gets paid while learning a designated trade.
2. Who is eligible to enter into an apprenticeship?	2. Anyone of any age is eligible to enter an apprenticeship.
3. What is a designated trade?	3. A designated trade is an occupation for which both apprenticeship and training and certification are available. Certification as a journeyman indicates that you have achieved a recognized standard of competency.
4. Why would you do your apprenticeship in Alberta?	4. Alberta has a stable and growing economy with good potential for long-term job availability.
5. What does a welder do, and how long is the apprenticeship training period?	5. A welder joins metal together, using a variety of fusion processes. The apprenticeship training period is three years, which includes three to eight weeks of in-school sessions.
6. What does a carpenter do, and how long is the apprenticeship training period?	6. A carpenter works with wood and wood substitutes. Carpentry has a four-year apprenticeship, with four to eight weeks of in-school sessions.
7. What does a millwright do, and how long is the apprenticeship training period?	7. A millwright installs and maintains machinery in industrial settings. The apprenticeship period is four years, with four to eight weeks of in-school training sessions.
8. What does a heavy equipment operator do, and how long is the training period?	8. A heavy equipment operator runs a variety of mobile equipment. The training period varies according to the equipment the person is training to operate. All training is done on the job.
9. What salary can a carpenter expect to earn as a journeyman?	9. \$16.95 to \$33.57 per hour.
10. What salary can a welder expect to earn as a journeyman?	10. \$21.89 to \$33.50 per hour.

**ACTIVITY  
NO. 4**

**UNDERSTANDING TRADES AND  
APPRENTICESHIP IN ALBERTA**

Name: \_\_\_\_\_

Use the Search function of the *TRADE UP!* CDROM to answer the following.

1. An apprenticeship is a combination of \_\_\_\_\_,  
\_\_\_\_\_ and \_\_\_\_\_.
2. Apprenticeships last from \_\_\_\_\_ to \_\_\_\_\_ years.
3. There are more than \_\_\_\_\_ apprenticeship trades in Alberta.
4. First-year apprentices earn about \_\_\_\_\_ of a journeyman's wage.
5. A \_\_\_\_\_ on your journeyman certificate lets you work in most Canadian provinces and territories.
6. List three reasons why it is a good time to pursue a career in the construction industry in Alberta.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
7. A designated occupation is an occupation that has been approved by the \_\_\_\_\_ on the recommendation of industry.
8. RAP stands for \_\_\_\_\_.
9. List three Alberta colleges or technical institutes that provide education associated with construction industry occupations, and include their web site addresses.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
10. Describe TWO potential career paths in construction. Use Career Paths under the Search component of the *TRADE UP!* CDROM, or interview someone working in the construction industry. Use the back of this sheet to continue your response.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**ACTIVITY  
NO. 4**

**UNDERSTANDING TRADES AND  
APPRENTICESHIP IN ALBERTA  
ANSWER KEY**

1. An apprenticeship is a combination of **ON-THE-JOB TRAINING**, **WORK EXPERIENCE** and **TECHNICAL TRAINING**.
2. Apprenticeships last from **1** to **4** years.
3. There are more than **50** apprenticeship trades in Alberta.
4. First-year apprentices earn about **HALF** of a journeyman's wage.
5. A **RED SEAL** on your journeyman certificate lets you work in most Canadian provinces and territories.
6. List three reasons why it is a good time to pursue a career in the construction industry in Alberta.  
**ANY THREE OF THE FOLLOWING:**
  1. **IT'S WHERE THE JOBS ARE**
  2. **CONSTRUCTION WORKERS HAVE A HIGH LEVEL OF JOB SATISFACTION**
  3. **TRADES OPEN DOORS TO OTHER CAREERS**
  4. **EARN WHILE YOU LEARN**
7. A designated occupation is an occupation that has been approved by the **MINISTER OF ALBERTA LEARNING** on the recommendation of industry.
8. RAP stands for **REGISTERED APPRENTICESHIP PROGRAM**.
9. List three Alberta colleges or technical institutes that provide education associated with construction industry occupations, and include their web site addresses.  
**ANY THREE OF THE FOLLOWING:**  
**FAIRVIEW COLLEGE** <<http://www.fairviewc.ab.ca>>  
**KEYANO COLLEGE** <<http://www.keyanoc.ab.ca>>  
**LAKELAND COLLEGE** <<http://www.lakelandc.ab.ca>>  
**LETHBRIDGE COMMUNITY COLLEGE** <<http://www.lethbridgecollege.ab.ca>>  
**MEDICINE HAT COLLEGE** <<http://www.mhc.ab.ca>>  
**NORTHERN ALBERTA INSTITUTE OF TECHNOLOGY** <<http://www.nait.ab.ca>>  
**OLDS COLLEGE** <<http://www.oldscollege.ab.ca>>  
**RED DEER COLLEGE** <<http://www.rdc.ab.ca>>  
**SOUTHERN ALBERTA INSTITUTE OF TECHNOLOGY** <<http://www.sait.ab.ca>>
10. Describe **TWO** potential career paths in construction. Use Career Paths under the Search component of the **TRADE UP!** CDROM, or interview someone working in the construction industry. Use the back of this sheet to continue your response.  
**Refer to the Construction Industry Career Paths chart on page 13 of this Teacher Guide.**

# ACTIVITY NO. 5 COMPARING OCCUPATIONAL OPTIONS

Name: \_\_\_\_\_

Making career choices can be difficult. There are many options and opportunities. And, as you think about what kind of work you want to do, you will also need to consider how you will prepare for the work you want to do.

To help you compare various occupations, develop your own **career decision-making grid**. This grid can help you clarify what is important to you—the factors that you want to be sure to consider as you assess various work options.

1. Review the following list. You may want to add additional items that are important to you.
2. Check the five to ten factors that are most important to you in making career choices. Add or modify as you wish.

<p><b><i>In this occupation, I would likely:</i></b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> have freedom to use my initiative/make decisions</li> <li><input type="checkbox"/> make a good wage/salary</li> <li><input type="checkbox"/> be recognized by my peers and supervisors</li> <li><input type="checkbox"/> be able to help others</li> <li><input type="checkbox"/> be able to help my community</li> <li><input type="checkbox"/> be able to travel</li> <li><input type="checkbox"/> be able to use my creativity</li> <li><input type="checkbox"/> be involved in work I find exciting</li> <li><input type="checkbox"/> be providing a service to the public</li> <li><input type="checkbox"/> be expected to make many decisions</li> <li><input type="checkbox"/> be able to access training/education programs</li> <li><input type="checkbox"/> be able to increase my credentials</li> <li><input type="checkbox"/> be my own boss</li> <li><input type="checkbox"/> _____</li> <li><input type="checkbox"/> _____</li> </ul>	<p><b><i>In this occupation, I would likely:</i></b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> have a good benefits plan—medical, dental, insurance</li> <li><input type="checkbox"/> work with machines and tools</li> <li><input type="checkbox"/> be physically active</li> <li><input type="checkbox"/> work outdoors/indoors</li> <li><input type="checkbox"/> work with details</li> <li><input type="checkbox"/> work with numbers</li> <li><input type="checkbox"/> work under pressure</li> <li><input type="checkbox"/> work with physical discomfort</li> <li><input type="checkbox"/> work with repetitive tasks</li> <li><input type="checkbox"/> work alone/with others</li> <li><input type="checkbox"/> need to communicate to groups</li> <li><input type="checkbox"/> have an opportunity for advancement</li> <li><input type="checkbox"/> _____</li> <li><input type="checkbox"/> _____</li> </ul>
---	--

3. Complete the worksheet on the following page. Consider including it in your career portfolio.

**Note:** Don't screen out occupations too quickly; investigate them as thoroughly as you can to better understand what you will do, what you can learn (and earn) and how the occupation could help you move toward your goals/dreams. Remember that the factors you consider important now may well change.

# ACTIVITY NO. 5

## COMPARING OCCUPATIONAL OPTIONS—PERSONAL CAREER DECISION-MAKING GRID

Name: \_\_\_\_\_

1. In the left-hand column, write the factors you consider most important when considering various occupations.
2. Write the names of the occupations you are considering on the top row of the chart.
3. Rate each factor in terms of how important it is in your occupational choice—5 = High Importance; 0 = No Importance.
4. Total the points for each career option. Consider the results in terms of your personal goals and present situation. What would you need to do next? Complete Activity 6 to do a more in-depth investigation of those occupations you found most interesting.

**Sample Career Decision-making Grid**

**5 = High Importance; 0 = No Importance**

Factors Important to Me	Occupations I Am Considering			
<i>In this occupation, I likely would:</i>	Lather – Interior Systems Mechanic	Pipefitter	Boilermaker	Electrician
<input type="checkbox"/> be involved in a variety of work	1	4	4	5
<input type="checkbox"/> work indoors/work outdoors	5	3	1	5
<input type="checkbox"/> travel frequently	3	5	5	3
<input type="checkbox"/> be involved in work that is physically demanding	5	4	4	3
<input type="checkbox"/> work with my hands and with tools	3	5	3	4
<b>Total Score</b>	17	21	17	20

**5 = High Importance; 0 = No Importance**

Factors Important to Me	Occupations I Am Considering			
<i>In this occupation, I likely would:</i>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<b>Total Score</b>				

**Comments/Next Steps** (Use the back of this sheet)

**ACTIVITY  
NO. 6****WORK INVESTIGATION—  
INTERVIEWING SOMEONE  
“IN THE BUSINESS”**

Name: \_\_\_\_\_

An effective way to find out whether or not you would enjoy working in a particular industry, such as construction, or in a particular occupation, such as a pipefitter, is to interview someone who is already employed/involved in that industry or occupation. Use the following checklist to set up an interview, conduct the interview and analyze your findings. Put the information together in a work investigation report that you can include in your career portfolio.

**Getting and Completing the Interview**

- ☐ Identify who you want to speak to and what you want to learn
- ☐ Prepare a short list of potential industries/occupations in which you may be interested. A career decision-making grid could help with this—Activity No. 5.
- ☐ Identify someone working in that industry/occupation. If you do not know someone, check with family, friends, teachers, school counsellors or local Career Development Centres.
- ☐ Decide and write down the key questions you want answered. For some ideas, review the Sample Interview Questions listed on the following page.
- ☐ Set up the appointment
- ☐ At least two weeks prior to when you want to meet, call to arrange an appointment.
- ☐ If you are a little unsure, write out a verbatim script of what you want to say.
- ☐ Introduce yourself.
- ☐ Indicate that you are investigating work in \_\_\_\_\_ industry/occupation and would like to ask a few questions.
- ☐ Estimate the time you expect to take—probably 30 minutes.
- ☐ If the person says “yes,” confirm (repeat) the time and location.
- ☐ If the person says “no” (probably too busy), ask if he/she could suggest someone else who could help.
- ☐ Thank the person for his or her time in speaking with you.
- ☐ Meet with your contact
- ☐ On the day of the appointment, call to confirm the time and location.
- ☐ Be a few minutes early for the appointment.
- ☐ Dress appropriately. If you are not sure, check with your parents or teachers.
- ☐ Take a notebook with your questions, and be prepared to jot down the answers.
- ☐ Be prepared to answer questions that you may be asked; e.g., “How are you doing in school?” “Why are you interested in this industry/occupation?”
- ☐ Thank your contact for his or her time and willingness to help you. Tell them how you will use the information/advice they have shared; e.g., to complete a career investigation assignment, to help assess career options. Ask for their address/business card so you can send them a thank-you note. If appropriate, include the person in your network list in your career portfolio.
- ☐ Send a thank-you note within one week of your visit.

- ☐ Reflect on what you learned
- ☐ Review your notes and impressions.
- ☐ Review your career decision-making grid. Would you add any new factors to consider when assessing an industry/occupation? See Activity No. 5. Are you more/less interested in this industry/occupation?
- ☐ Identify additional steps you could take if you would like to proceed with this investigation; e.g., part-time job, work experience, volunteer work, interview others, investigate labour market projections.

### Sample Interview Questions

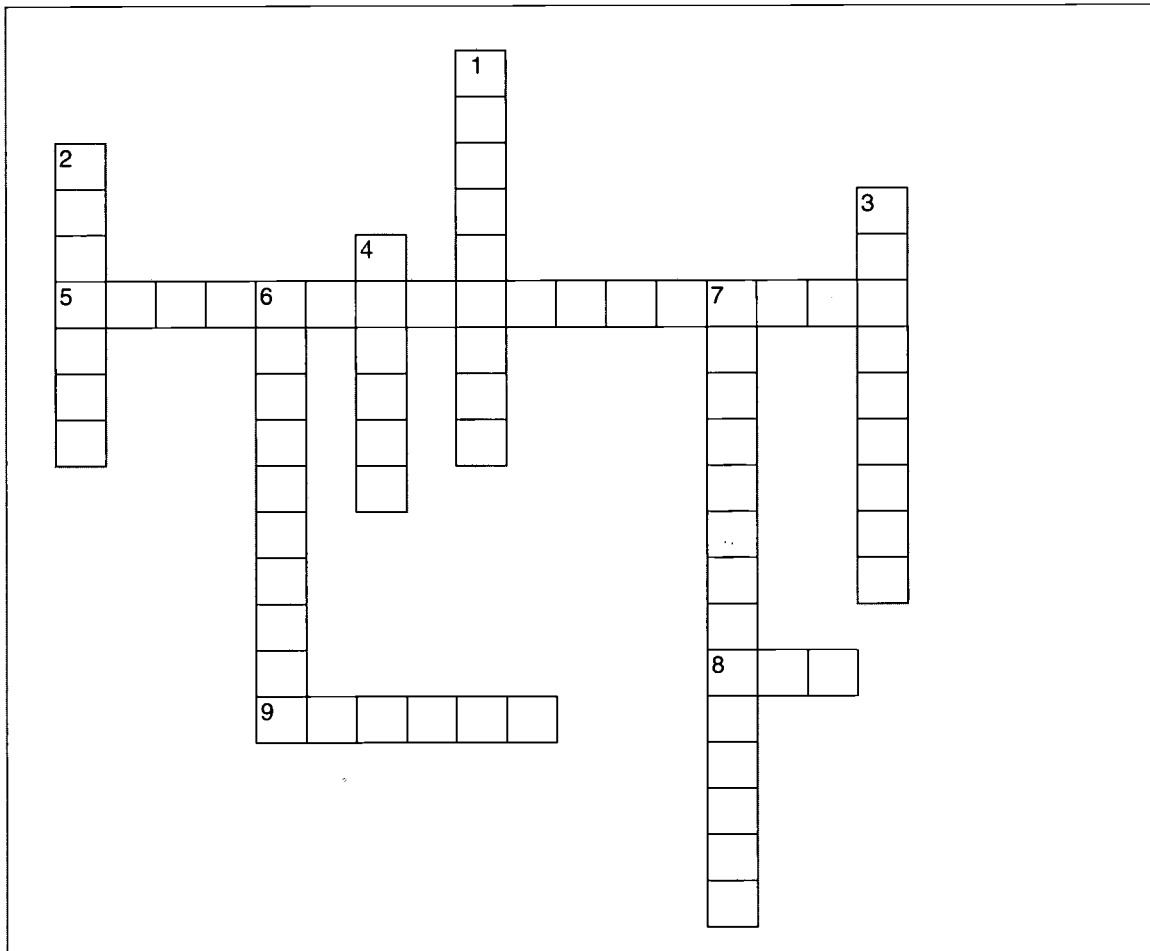
1. How long have you worked in this job?
2. How long have you worked for this organization?
3. What are your major responsibilities, duties, tasks?
4. What do you perceive to be the major rewards of this job?
5. What tasks would you do in a day? Who would work with you?
6. What do you like most about this job?
7. What are the major frustrations in this job?
8. What are the most frequently recurring problems?
9. What changes have occurred in your job in the past few years?
10. What advice would you give to a person coming into a job like yours?
11. What are the education and experience requirements for this job?
12. Who is your immediate supervisor? What is his or her title?
13. Do you know anyone else whom it would be helpful for me to interview?



**ACTIVITY  
NO. 7**

**TRADE UP! CROSSWORD PUZZLE**

Name: \_\_\_\_\_



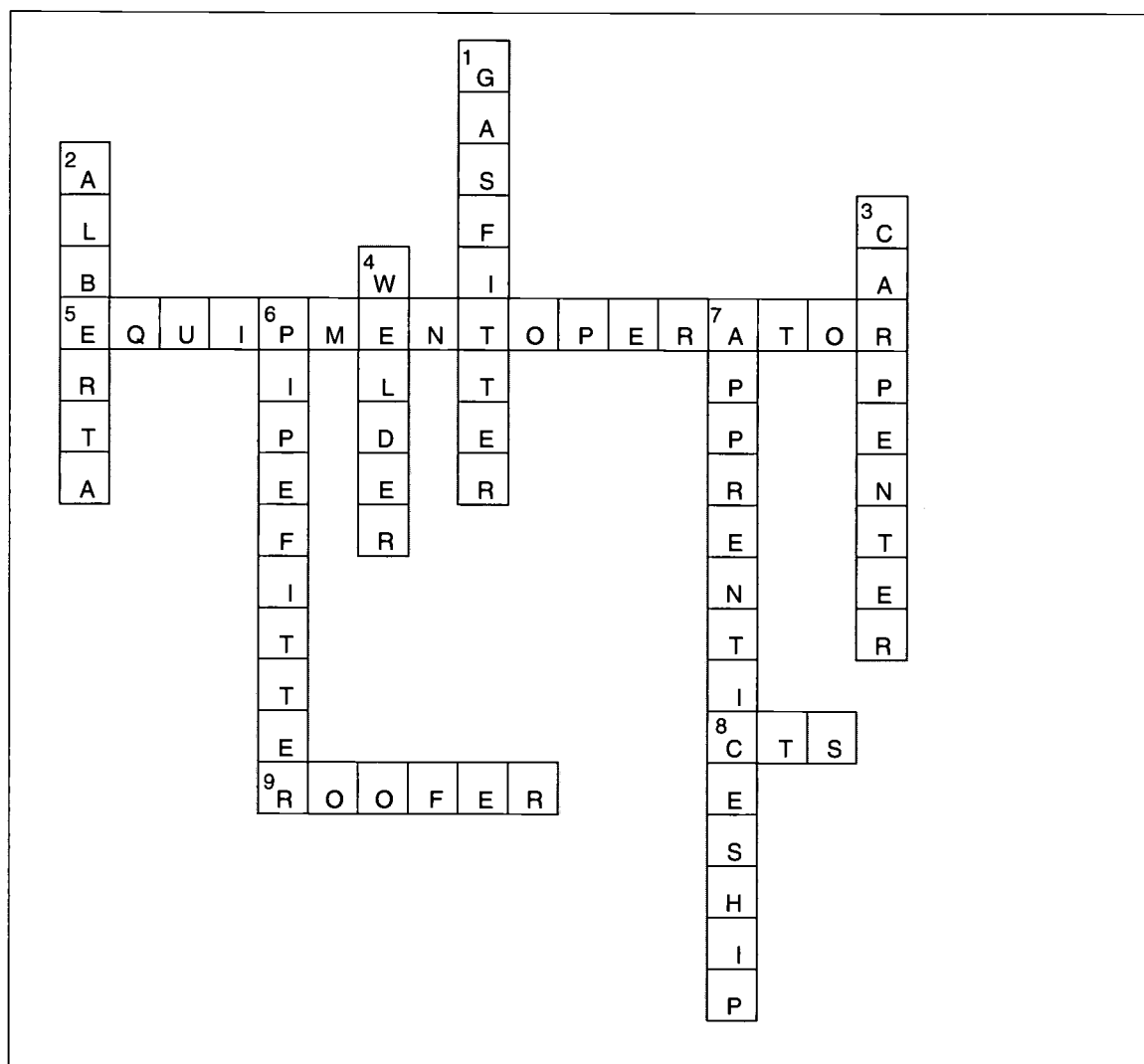
**Across**

5. Person who operates moving equipment on all types of construction sites.
8. Senior high school courses that teach skills for careers in some trades.
9. Person who works with shakes, shingles and plastic roofing membranes to make the tops of buildings waterproof.

**Down**

1. Person who installs piping appliances, equipment and controls for the use of natural gas or propane as fuel.
2. The best place to pursue a trade in Canada.
3. Person who works with wood and wood substitutes in the construction of buildings and structures.
4. Person who joins metals by fusion.
6. Person who installs equipment and controls for piping hot water, steam and chemicals.
7. A combination of on-the-job training, work experience and technical training for a designated trade.

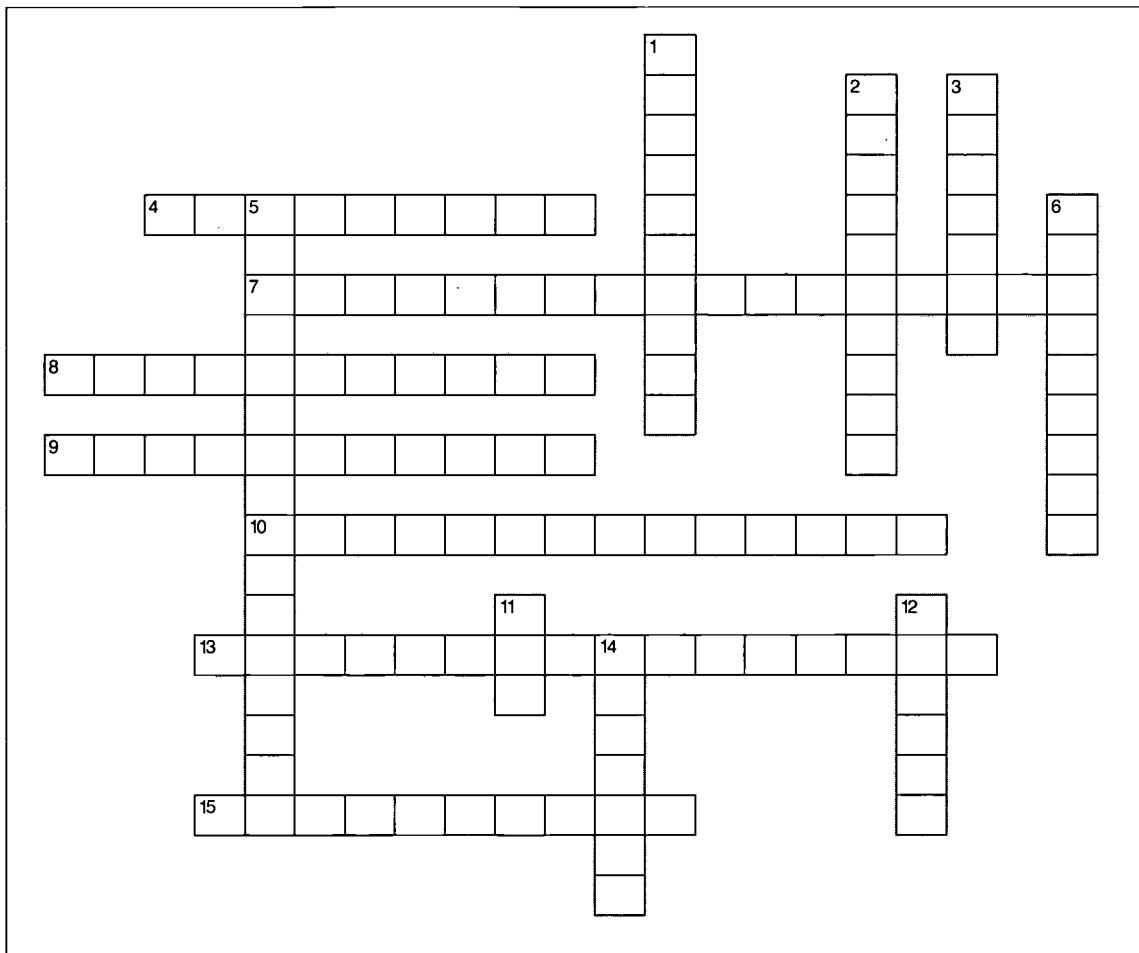
# Key: Crossword Puzzle 7



# ACTIVITY NO. 8

## TRADE UP! CROSSWORD PUZZLE

Name: \_\_\_\_\_



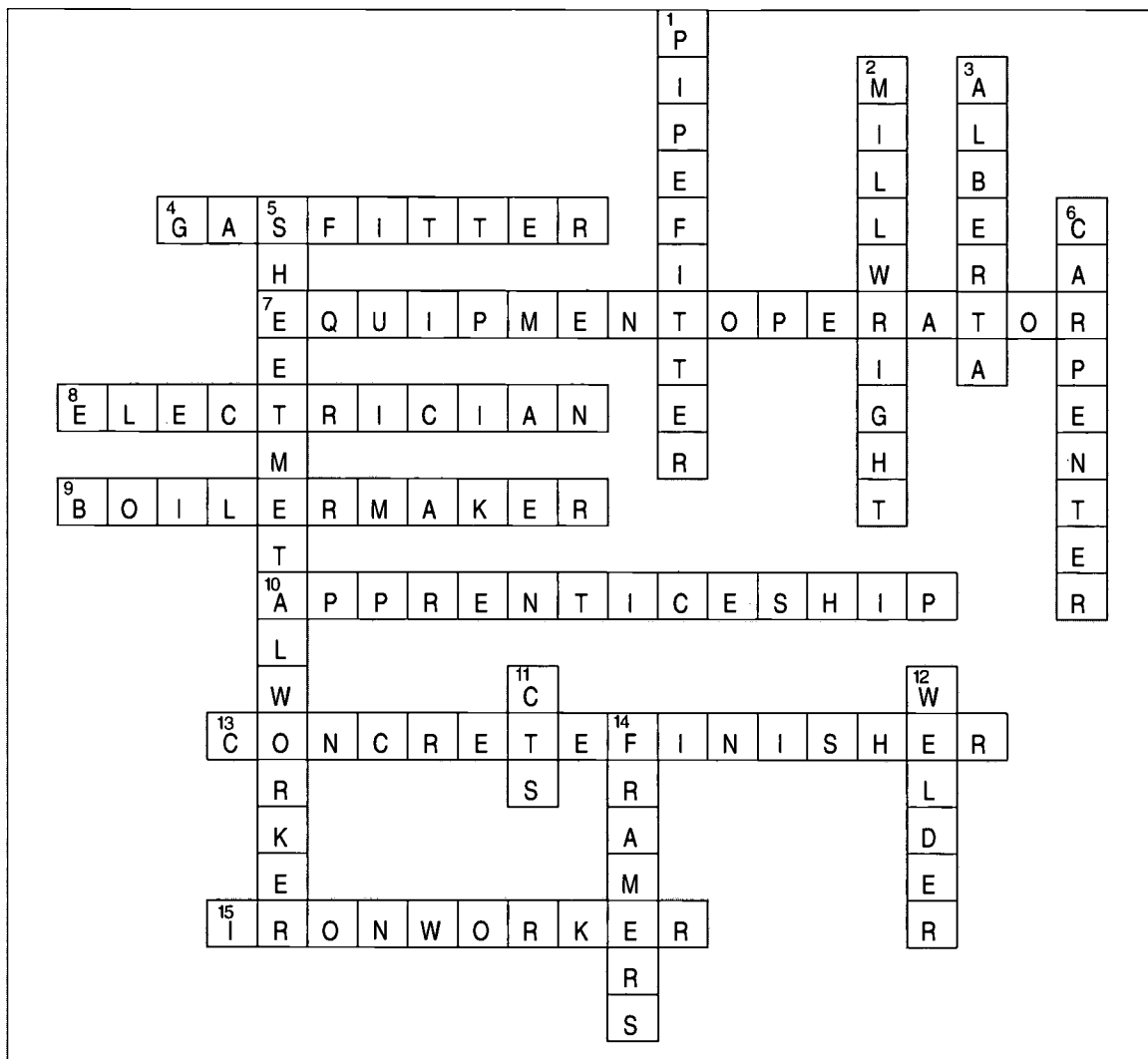
### Across

4. Person who installs piping appliances, equipment and controls for the use of fuel.
7. Person who operates moving equipment on construction sites.
8. Person who installs electrical wiring systems.
9. Person who builds, tests and repairs air-tight and liquid-tight containers.
10. A combination of on-the-job training, work experience and technical training for a designated trade.
13. Person who places, finishes, cuts and repairs concrete.
15. Person who constructs and erects the structural steel on buildings, bridges and towers.

### Down

1. Person who installs piping equipment and controls.
2. Person who installs and maintains machinery in factories and other production plants.
3. The best place to pursue a trade in Canada.
5. Person who designs, fabricates, installs and repairs ducts for heating, ventilation, air conditioning and exhaust systems.
6. Person who works with wood and wood substitutes in the construction of buildings and structures.
11. Senior high school courses that teach skills for careers.
12. Person who joins metals by fusion.
14. People who construct and erect the wood frame and rafters on houses.

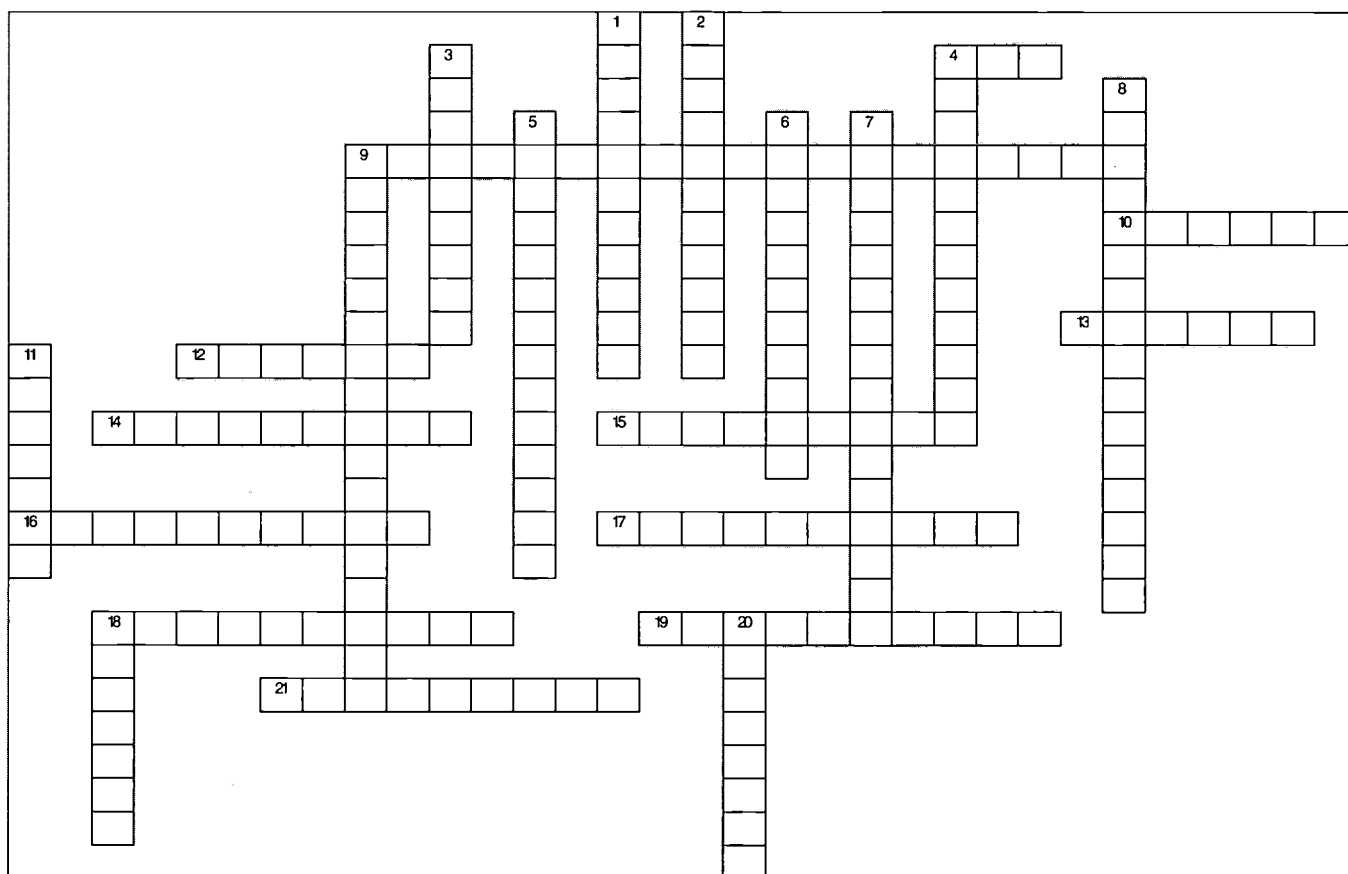
# Key: Crossword Puzzle 8



# ACTIVITY NO. 9

## TRADE UP! CROSSWORD PUZZLE

Name: \_\_\_\_\_



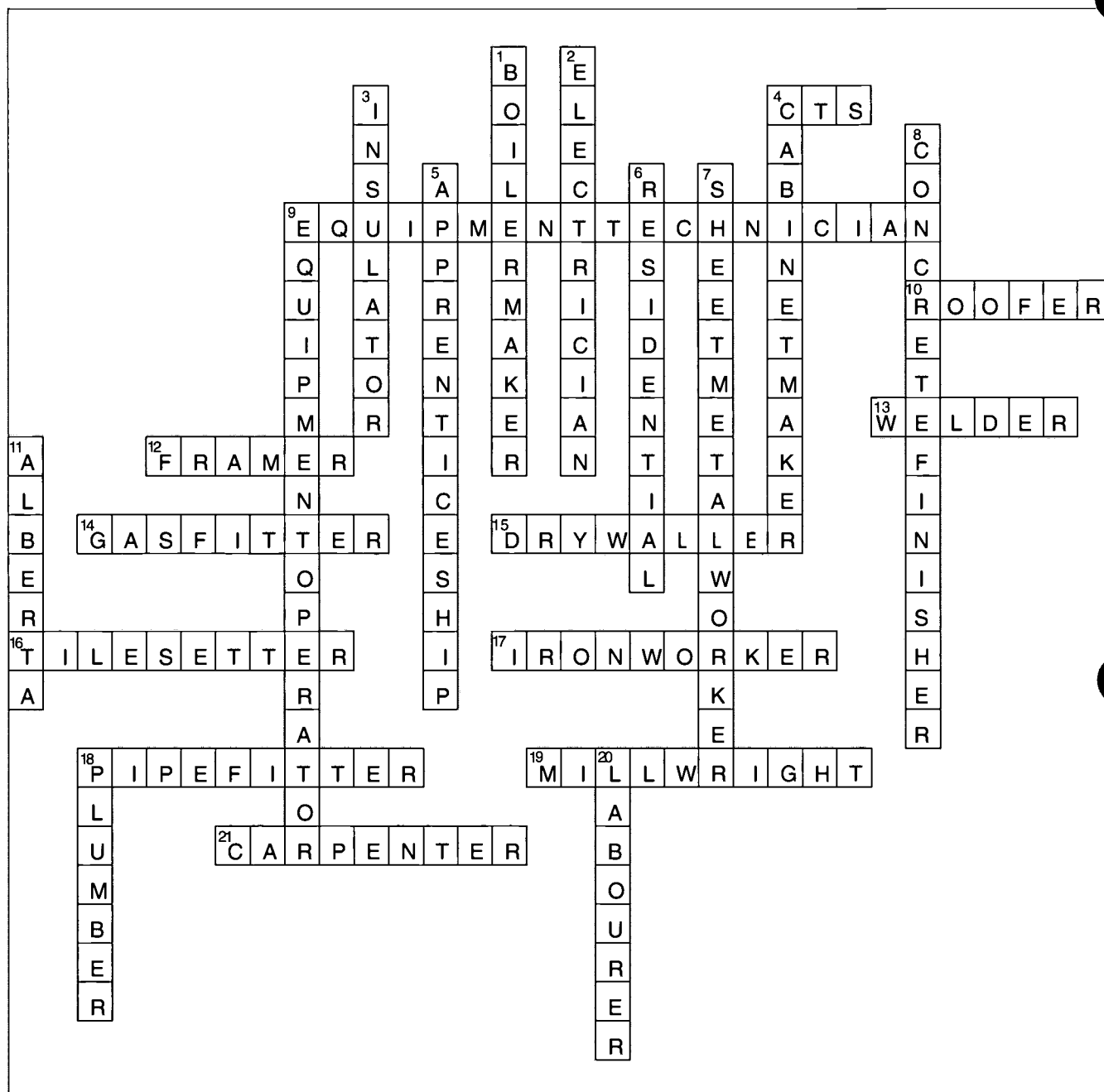
### Across

4. Senior high school courses that teach skills for careers.
9. Person who services and repairs mobile and stationary equipment for construction and industrial work.
10. Person who works with shakes, shingles and plastic roofing membranes to make the tops of buildings waterproof.
12. Person who constructs and erects the wood frame and rafters on houses.
13. Person who joins metals by fusion.
14. Person who installs piping appliances, equipment and controls.
15. Person who installs interior finishes in the construction of buildings.
16. Person who installs tiles and other ceramics.
17. Person who constructs and erects the structural steel on buildings, bridges and towers.
18. Person who installs equipment and controls.
19. Person who installs and maintains machinery in factories.
21. Person who works with wood and wood substitutes in the construction of buildings and structures.

### Down

1. Person who builds, tests and repairs air-tight and liquid-tight containers.
2. Person who installs electrical wiring systems.
3. Person who installs insulation.
4. Person who builds cabinets and installs them.
5. A combination of on-the-job training, work experience and technical training for a designated trade.
6. Construction work that involves building shelters for families.
7. Person who designs, fabricates, installs and repairs ducts for heating, ventilation, air conditioning and exhaust systems.
8. Person who places, finishes, cuts and repairs concrete.
9. Person who operates moving equipment.
11. The best place to pursue a trade in Canada.
18. Person who installs piping fixtures and controls for water and sanitation systems.
20. Person who performs general lifting, moving and assembling work on a job site.

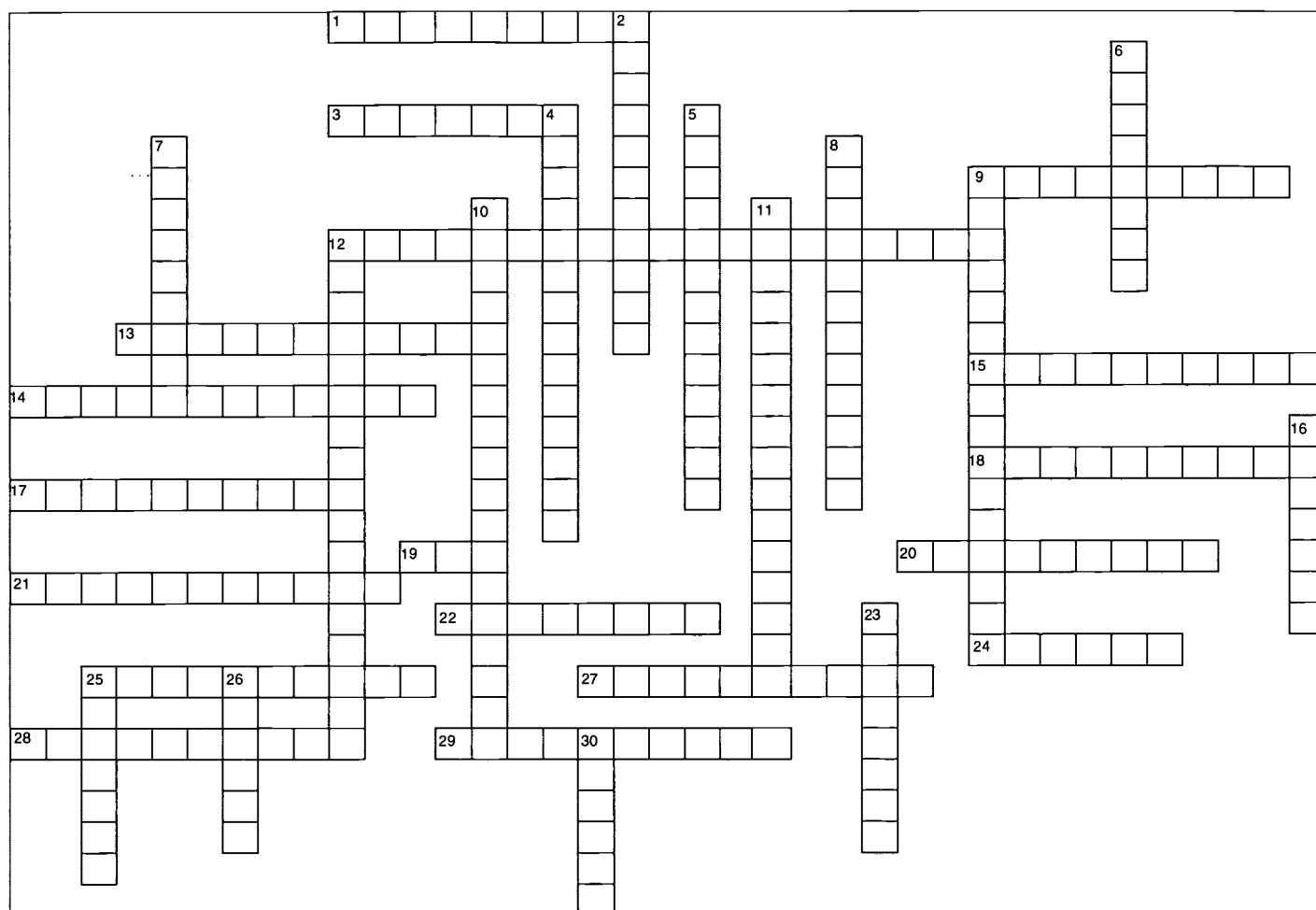
# Key: Crossword Puzzle 9



# ACTIVITY NO. 10

## TRADE UP! CROSSWORD PUZZLE

Name: \_\_\_\_\_



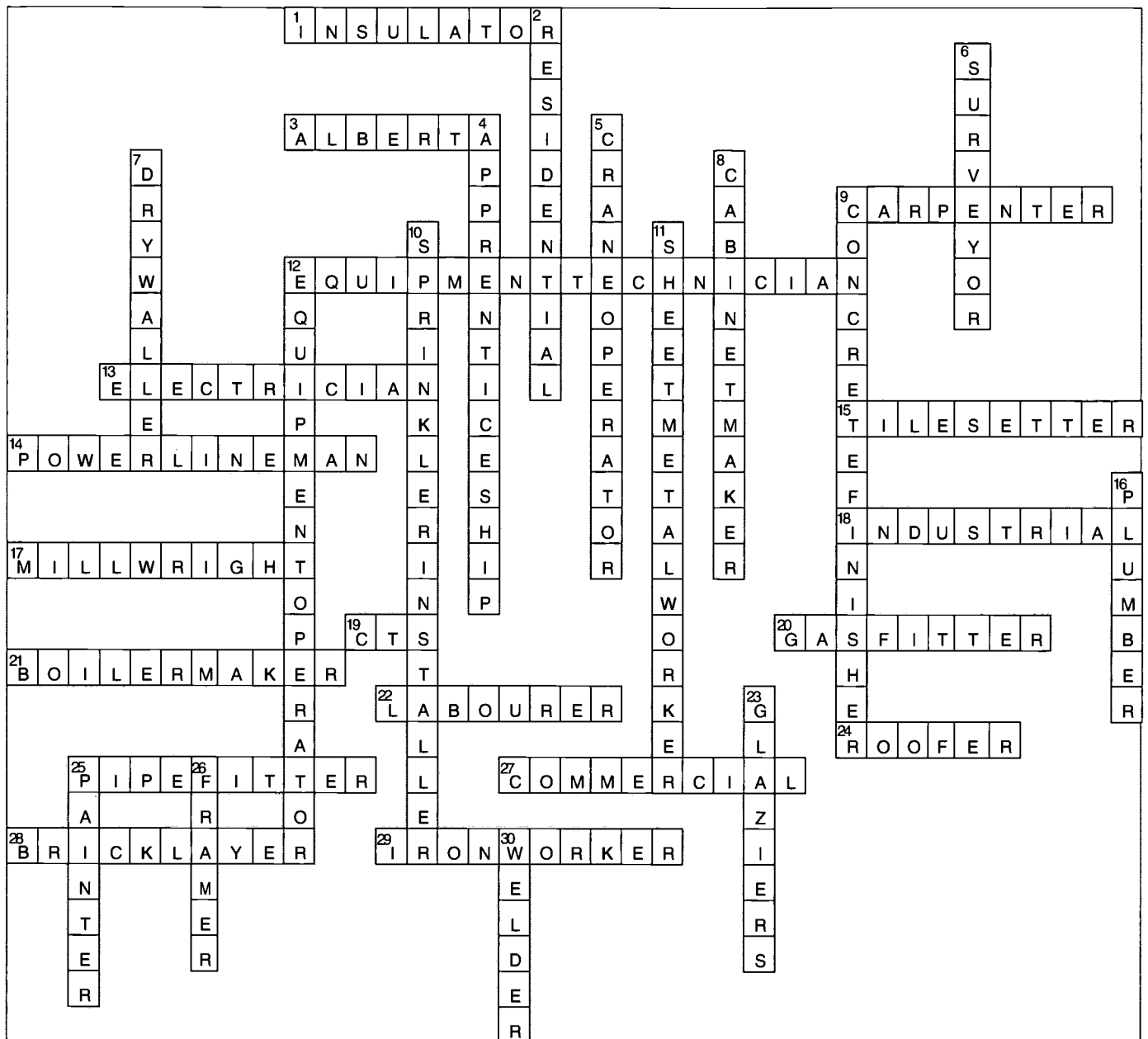
### Across

1. Person who installs insulation.
3. The best place to pursue a trade in Canada.
9. Person who works with wood and wood substitutes in the construction of buildings and structures.
12. Person who services and repairs mobile and stationary equipment.
13. Person who installs electrical wiring systems.
14. Person who constructs, maintains or operates electrical distribution systems.
15. Person who installs tiles and other ceramics.
17. Person who installs and maintains machinery.
18. Type of construction that builds, for example, oil sands plants.
19. Senior high school courses that teach skills for careers.
20. Person who installs piping equipment and controls for fuel.
21. Person who builds, tests and repairs air-tight and liquid-tight containers.
22. Person who performs general lifting, moving and assembling work on a job site.
24. Person who works with shakes, shingles and plastic roofing membranes to make the tops of buildings waterproof.
25. Person who installs piping equipment and controls.
27. Type of construction that builds, for example, movie theatres.
28. Person who works with hollow tile, bricks and concrete blocks.
29. Person who constructs and erects structural steel.

### Down

2. Construction work that involves building shelter for families.
4. A combination of on-the-job training, work experience and technical training for a designated trade.
5. Person who operates tower cranes, mobile cranes and boom trucks to lift and swing materials.
6. Person who lays out site lines and elevations on construction sites.
7. Person who installs finishes in the construction of buildings.
8. Person who builds cabinets and installs them.
9. Person who places, finishes, cuts and repairs concrete.
10. Person who installs fixed fire extinguisher systems.
11. Person who designs, fabricates, installs and repairs ducts for heating, ventilation, air conditioning and exhaust systems.
12. Person who operates moving equipment on construction sites.
16. Person who installs piping fixtures and controls for water and sanitation systems.
23. People who cut and install glass and aluminum systems.
25. Person who paints outside and inside of finished structures.
26. Person who constructs and erects the wood frame and rafters on houses.
30. Person who joins metals by fusion.

# Key: Crossword Puzzle 10







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